



INTERNATIONAL JOURNAL OF ACADEMIC RESEARCH IN BUSINESS & SOCIAL SCIENCES



Exploring the Roles of Social Presence Practices in Enhancing Virtual Teams Performance in the Higher Education Sector in Malaysia

Saleh Alkoud, Dolhadi Zainudin, Suhaimi Mhd Sarif

To Link this Article: <http://dx.doi.org/10.6007/IJARBSS/v13-i4/16722>

DOI:10.6007/IJARBSS/v13-i4/16722

Received: 05 February 2023, **Revised:** 09 March 2023, **Accepted:** 28 March 2023

Published Online: 14 April 2023

In-Text Citation: (Alkoud et al., 2023)

To Cite this Article: Alkoud, S., Zainudin, D., & Sarif, S. M. (2023). Exploring the Roles of Social Presence Practices in Enhancing Virtual Teams Performance in the Higher Education Sector in Malaysia. *International Journal of Academic Research in Business and Social Sciences*, 13(4), 1462 – 1472.

Copyright: © 2023 The Author(s)

Published by Human Resource Management Academic Research Society (www.hrmars.com)

This article is published under the Creative Commons Attribution (CC BY 4.0) license. Anyone may reproduce, distribute, translate and create derivative works of this article (for both commercial and non-commercial purposes), subject to full attribution to the original publication and authors. The full terms of this license may be seen at: <http://creativecommons.org/licenses/by/4.0/legalcode>

Vol. 13, No. 4, 2023, Pg. 1462 – 1472

<http://hrmars.com/index.php/pages/detail/IJARBSS>

JOURNAL HOMEPAGE

Full Terms & Conditions of access and use can be found at
<http://hrmars.com/index.php/pages/detail/publication-ethics>



INTERNATIONAL JOURNAL OF ACADEMIC RESEARCH IN BUSINESS & SOCIAL SCIENCES



Exploring the Roles of Social Presence Practices in Enhancing Virtual Teams Performance in the Higher Education Sector in Malaysia

Saleh Alkoud

Department of Business Administration, Faculty of Economics and Management Sciences,
International Islamic University Malaysia, Jalan Gombak, 53100 Kuala Lumpur, Malaysia
Corresponding Author's Email: salehalkoud@gmail.com

Dolhadi Zainudin, Suhaimi Mhd Sarif

Department of Business Administration, Faculty of Economics and Management Sciences,
International Islamic University Malaysia, Jalan Gombak, 53100 Kuala Lumpur, Malaysia

Abstract

Many recent studies indicate that the application of virtual teams has increased dramatically in recent years in various businesses and public services such as education as a result of the rapid progress in information and communication technology. The use of virtual teams increased further after the spread of the Covid-19 epidemic. The research problem lies in the contradiction between the increasing use of virtual teams in the field of business and services and the high failure rate in virtual teams, as the factors affecting the success of these teams still need further exploration and research. The importance of this study lies in highlighting the most important factors associated with the success of virtual teams in the field of higher education, as this study contributes to bridging the knowledge gap in previous studies that did not adequately address the performance of virtual teams in the higher education sector.

Keywords: Virtual Teams Performance, Social Presence, Trust, Communication, Building Relationships

Introduction

Virtual Human Resources (VHRD) developments have recently gained prominence as a result of the development of means of communication and the growing need for them in light of the crises the world is going through, such as the most recent of which is Covid-19. Virtual teams are considered as one of the most important practices for developing virtual human resources (Bennett & Bierema, 2010). One of the most common issues when creating virtual human resources is the performance of virtual teams.

Research shows that virtual teams are becoming more significant globally. Virtual teams have been used by several multinational corporations with great success, including Xerox, General Motors, Hewlett-Packard, Procter & Gamble, and General Mills (Soon and Salamzadeh, 2021). In addition, according to Lister (2020), 73% of employees will be working remotely by 2028,

which highlights the growing significance of creating virtual teams in enterprises. Roughly five years ago, estimates indicated that between 50 and 70 percent of white-collar professionals in OECD countries had experience working in global virtual teams across borders (Zander et al., 2021).

One of the modern strategies used by businesses to carry out their operations in times of crisis and assure their survival and continuation is remote work (Henry et al., 2021). According to Baynum's analysis from 2021, following the Covid-19 outbreak in 2020, business owners have asked their office staff to work remotely instead of providing them with a physical workspace, to guarantee that all team members interact with each other and with their organisations and enterprises, it was crucial for corporate personnel to use ICT tools like Microsoft Teams, Sales Force, Slack, and WeChat. In a recent research in March 2020 after Covid-19, performed with executives in the human resources management department, it was discovered that 80% of firms asked their workers to work from home, according to (Caligiuri et al., 2020).

Researchers argue that despite virtual teams have been used more and more in organizations (Lister, 2020; Zander et al., 2021; Gupta and Pathak, 2018; Caligiuri et al., 2020), the failure rate of a virtual team is very high (Clark et al., 2019). Hence, more research is needed to clarify how to solve this problem. In Malaysia, the implementation of virtual teams in higher education is still in its infancy, and there are still many unknowns regarding the factors affecting their effectiveness. As a result, there have been many difficulties in applying virtual teams in this context.

Based on the foregoing, the current study seeks two main objectives

- Exploring social presence factors according to previous studies.
- How do social presence factors affect the performance of virtual teams in the context of Malaysian higher education.

This study contributes to providing additional knowledge to previous studies on the factors affecting virtual teams in the higher education sector. Where previous studies indicate that there is a lack of these studies. Where the studies such as the study of Sagar et al (2022); Bhat et al (2017), mention that the administration has difficulty creating high-performance virtual teams, due to inadequate guidance and research on successful virtual teams that have already been formed.

Overview of the Malaysian Higher Education Industry

According to the Malaysian Qualifications Agency (MQA), there are many different types of higher education institutions in Malaysia, including public universities, private universities, polytechnics, colleges, institutes, and university colleges (MQA, 2023).

With Malaysia's high level of government investment on education, statistics show that decision-makers are interested in the higher education industry. The Government of Malaysia spends over 5% of its GDP on education, which is more than the global and regional average, according to the Agency on Education Malaysia Global Services (EMGS, 2023). The Malaysian government oversees both public and private institutions of higher learning and aspires to serve as a regional centre for foreign students. Krishnaswamy et al (2019) have showed that the higher education industry contributes around 7.9 billion Malaysian Ringgit (RM) to the country's GDP each year, with an estimated increase to 15.6 billion RM by 2020.

Statistics indicate that decision-makers in Malaysia are interested in the higher education sector which is evidenced by the high level of government expenditure on education. The

Malaysian government is in charge of both public and private universities and hopes to act as a regional hub for international students. Moreover, Malaysia is ranked eleventh in the world as the best destination for international students because of the high calibre of its universities and the reasonable costs of living, as the cost of studying in Malaysia is around 9000 US dollars, including tuition, housing, living expenses, and airline tickets, compared to 17000 dollars in Australia and 35000 in the United States.

The Challenges of Malaysian Higher Education

The proliferation of Covid-19 in Malaysia has presented several difficulties for the country's higher education system. On March 18, 2020, the Malaysian government implemented the Movement Control Order (MCO) to stop the spread of Covid-19 (Rahmat et al., 2022; Muhamad Don et al., 2022). The shutdown has significantly hurt Malaysia's economy. Since the commencement of Covid-19 in Malaysia in March 2020, the Malaysian economy has suffered losses of 63 billion RM (Sia and Adamu, 2021). Huge losses like this signal a serious threat and force the Malaysian government to change the way it operates in order to preserve institutions that deliver essential services like education. That is why the Malaysian government urged higher educational institutions to implement remote work. Work from home using virtual technology, or WFH as it is more often called, is still a new concept in Malaysia, and since the country's uneven digital infrastructure and the nature of employment there, it seems doubtful that this working arrangement would become the "new normal" for the majority of Malaysian workers (Rahmat et al., 2022).

The epidemic has also had an effect on the higher education sector in Malaysia. The effects of Covid-19 on the education sector include the temporary closure of all colleges and universities as well as disturbances that have an influence on students' academic performance and social life (Osman et al., 2020). According to Azlan et al (2020), all educational institutions faced the problem of transferring educational processes to the Internet. The higher education sector has been affected by the lockdown, as have other sectors. Sia and Adamu (2020) indicated that some Malaysian higher education institutions were not prepared due to the novelty and skill requirements for virtual work. Sia and Abbas's study from 2021 additionally shows that Malaysia used virtual work throughout the crisis in an effort to offer efficient higher education services through higher education institutions. The majority of higher education institutions are now using new technologies and approaches that have become popular. These systems assist colleges and other educational institutions in managing the educational process, including all of its activities and objectives (Sia and Abbas Adamo, 2020). Berita Nasional Malaysia, or BERNAMA, 2020a, a Malaysian news agency, reports that one of the main difficulties faced by administrators in Malaysia's higher education during COVID-19 is the need to implement a remote work management system and use virtual teams to maintain distance learning services. In an April 2020 article, Hunter referenced research by Professor Geoffrey Williams, a former deputy vice-chancellor of Universiti Tun Abdul Razak, that showed 44% of Malaysia's private higher education institutions were in debt and 55% of them were experiencing losses, furthermore, most of these institutions and colleges have been forced to rely on new funding or stock from their owners in order to continue (Osman et al., 2020).

These statistics reveal that the higher education sector in Malaysia faces serious threats, particularly during times of crisis, and highlight the importance of using alternatives like virtual work to ensure that higher education institutions in Malaysia can continue to offer their services under all conditions in order to maintain their viability in the education market.

In addition, virtual teams have many advantages, including reducing expenses and recruiting talent, they may be used even after disasters.

Social Presence Theory

The theory of social presence is one of the common theories in previous studies when discussing virtual teams. The social presence theory investigates how people feel connected to one another when using an online interface. According to this notion, social presence in computer-based communication is lower than in face-to-face conversation (Don et al., 2022). Social presence is one of the many elements that influence how virtual teams performance (Bickle et al., 2019). One of the biggest problems confronting virtual teams is social presence, which affects cohesiveness, communication, relationships, and trust among team members. As a result, a substantial percentage of virtual teams fail to complete projects on time (Lin et al., 2008). Failure of virtual teams is caused by a lack of understanding of the problems that virtual teams face and how to solve them. For instance, Clark et al (2019) 's study shows that despite the significant benefits of virtual teams, failure rates can approach 71%. According to the research by Bickle et al (2019), a suitable social environment must be provided in a virtual human resource development setting in order to promote communication, foster trust, strengthen cohesiveness, and heighten a sense of belonging. In the following, we show the relationship between social presence and the performance of virtual teams, according to previous studies in this context.

Social Presence Practices and Virtual Team Performance

The provision of a setting for the social presence of virtual team members is one of the numerous difficulties in managing remote work in Malaysia's higher education institutions. One of the challenges of remote work is the social presence of virtual team members, including relationship-building, communication, coherence, and trust. Social presence elements have a significant influence on how well virtual teams work (Lin et al., 2008). Social elements help virtual team members communicate and engage more, which enhances the effectiveness of virtual teams (Bickle et al., 2019). In the study by Clark et al (2019), which examined the articles on the factors affecting the performance of virtual teams, it was discovered that 4 out of 5 factors are social in nature. This finding suggests that social presence factors have a significant and decisive impact on enhancing the effectiveness of virtual teams.

Social presence can improve the performance of the virtual team, according to earlier studies. Social dimensions variables have been demonstrated to improve performance and satisfaction in virtual teams (Lin et al., 2008). Social presence improves the effectiveness of virtual teams and fosters trust in computer-mediated environments (Schulze et al., 2017). According to studies, social presence in virtual teams has a variety of aspects, including (relationships building, cohesion, trust, and communication). The development of connections, coherence, and trust are social aspects that are essential for virtual teams to succeed (Lin et al., 2008). The virtual team members' ability to communicate with one another and develop their online presence is essential. Hence, one of the primary goals of networked communication systems is to increase social presence (Oh et al., 2018).

It should be noted that social presence differs from virtual teams in traditional teams. Social presence in virtual teams depends on the virtual incubator for interaction between team members to develop their sense of trust, cohesion and build relationships. Building bonds, trust, cohesion, and communication are the elements of the social presence of virtual team

members. The following illustrates the relationship of social presence practices to the performance of virtual teams

Relation Building

Relationships Building is one of the social presence aspects of the virtual team environment. Building strong bonds between virtual team members is hampered for several reasons. Members in virtual teams are less likely to develop close bonds with each other than in traditional teams (Sagar et al., 2022). A face-to-face team setup can allow relationships to be automatically formed between team members. While in a virtual team, the absence of face-to-face interaction, the (often) asynchronous nature of team member interactions, and geographic dispersion can have a detrimental effect on team effectiveness (Zhang et al., 2022).

The performance and success of the virtual team are fundamentally impacted by the development of relations inside the team. The success of virtual teams depends on the formation of trustworthy relationships because people who trust one another are more likely to take chances that will benefit the team as a whole (Sagar et al., 2022). Team relationships and a good atmosphere have been shown to have a beneficial influence on team performance (Zaharie, 2021a). According to Han (2017), the performance of the virtual team is directly correlated with relationship building. Building relationships amongst virtual team members is one of the factors that has the highest correlation with team success.

Building relationships between virtual team members is anticipated to correlate with the success of the virtual team in the context of higher education, just as it has in other fields like information technology and other industries where this correlation has been demonstrated. Therefore, it must be taken into account when building virtual teams in this context.

Cohesion

Prior research revealed that members of virtual teams had various conceptions of cohesiveness. The definition of team cohesiveness is the willingness of each team member to stick together in the pursuit of the team's goals and to each individual member's emotional needs. Le Pine et al (2008, p. 290) have stated the definition of cohesion as "team members' attraction and commitment to their team, team members, and the team's task " (Bartsch et al., 2020).

The virtual team's members are growing less cohesive for a number of reasons. The geographical dispersion of a virtual team may jeopardise cohesiveness since research on conventional teams has demonstrated that members' physical distance from one another can turn into a psychological distance (Chaudhary et al., 2022). On general, virtual team members report less cohesive teams than do traditional team members. This is mostly due to the team members' heavy reliance on technology and communication tools (Sagar et al., 2022). To assess the effect of cohesiveness on performance, prior study compared virtual teams to regular teams, but the outcomes were inconsistent. Since collaborative strategies delayed the creation of cohesiveness in virtual teams, conventional teams had greater levels of team cohesion than virtual teams. In contrast to physical teams, virtual teams eventually convey enough social information to form cohesive teams, according to other study, despite initially having poorer cohesiveness (Chaudhary et al., 2022).

Previous research has shown that a virtual team's high performance is related to its cohesiveness, according to a study by Paul et al (2016) that was done in the higher education sector. Leaders must pay sufficient attention to the cohesion of team members and enhance

this cohesion in virtual teams working in the higher education sector due to its direct impact on the performance of these teams, which has been proven by previous studies.

Trust

One of the most often investigated elements in the literature review on virtual teams is trust. In earlier studies, a variety of definitions of trust were mentioned. According to Elyousfi et al (2021); Nyhan (2000) has defined trust as "the degree of faith that one person has in another's ability and his or her readiness to act in a fair, ethical, and predictable manner".

One of the biggest obstacles to the success of virtual teams is the lack of trust among team members. Despite the numerous advantages of virtual teams, Sagar et al (2022) claim that one of the biggest challenges that increases the likelihood of the virtual team failing is the lack of trust between team members. The main issue with virtual teams is the lack of trust among the team members (Sagar et al., 2022). Building trust amongst team members is difficult when there is a distance between them due to the need for alternative communication techniques to the conventional ones.

furthermore, in comparison to a traditional team setting, coordination across teams, forming shared mental models, and conflict management need more work in virtual teams (Ben Sedrine et al., 2020). It is particularly challenging to establish trust in virtual teams since it is hard to judge a teammate's dependability before seeing them in person (Sagar et al., 2021). There are various factors that contribute to a lack of trust among virtual team members. The topic of trust in virtual teams has been the subject of several studies, and a number of variables that influence trust in both traditional and virtual teams have been highlighted. These elements are influenced by the passage of time, comparable cultures, and close geographic proximity (Ben Sedrine et al., 2020).

Trust is one of the social elements in a virtual team that has been shown to have a significant impact on the performance of teams in prior studies. According to Turesky et al (2020); Sergey et al (2020); Breuer et al (2020), the term trust is the most frequently used when referring to the atmosphere of a virtual team. According to the findings of studies by Ben Sedrine et al (2020); Sergey et al (2020); Turesky et al (2020); Velez-Calle et al (2020), a high degree of confidence also leads to a high level of performance.

According to research conducted in the higher education sector (Paul et al., 2016; Cheng et al., 2021; Zaharie, 2021), trust is related to the effectiveness of the virtual team. Therefore, managers and leaders must enhance trust among members of the virtual team because of its direct impact on the performance of these teams.

Communication

The prior literature frequently discusses communication in the context of virtual teams. There are several definitions given in the communication between virtual team members. According to Tan et al (2019); Horwitz et al (2006) has defined Communication as "The transition of information and understanding through the use of common symbols (verbal or nonverbal) between two or more team members in the appropriate manner"

One of the biggest problems virtual teams face is communication. A thorough analysis of the literature indicated that one of the problems virtual teams have been communications problems (Sagar et al., 2022a). Communication problems arise for a variety of causes, including time zone differences, coordination issues, language hurdles, and technological problems (Zaharie, 2021b).

Dependence on information and communication technology has become crucial for team members' communication, and as a result, has significantly impacted how well the virtual

team performs (Aleem, 2021). The study by Agbi (2018) demonstrates that if a member of a virtual team is trustworthy, then there is an improvement in performance when there is significant communication. Conversely, poor communication might result in subpar performance from a virtual team member.

As it has been demonstrated in other industries like information technology and the manufacturing sector, communication between members of the virtual team is projected to correlate with the success of the virtual team in the context of higher education. This requires effective communication between team members.

Conclusion

It is clear that virtual teams are now a must for all businesses and organisations, particularly in higher education, and that understanding the variables influencing these teams' effectiveness is essential to any institution's success. The success of the virtual team may also be attributed to the social presence practises among its members, with relationship development, trust, communication, and cohesiveness being among the most crucial of these behaviours. As a result, Malaysian authorities must take note of it.

The effects of not taking advantage of the features of virtual teams may have an impact on the ability of higher education institutions in Malaysia to compete regionally and globally in the education market (Sia and Adamu, 2020; Zuofa and Ochieng, 2021). Moreover, higher education institutions in Malaysia need to demonstrate to stakeholders that they are effective, efficient and quick to respond to emergencies, particularly during the pandemic crisis (Toquero, 2020; Sia and Adamu, 2020). Hybrid working technologies will continue to be developed even after COVID-19 (Azlan et al., 2020), so Malaysian education policy makers should take this into consideration.

Theoretical and Contextual Contribution

This study helps lay the foundation for future research on the performance of virtual teams. The current study provides more information and arguments about factors such as trust, relationship building, cohesion, and communication development in the virtual team to improve team effectiveness from the point of view of team performance, which are important elements of the social presence of the virtual team members. The purpose of this study is to add knowledge of the variables that influence the effectiveness of virtual teams. In addition, the findings of this study provide managers with recommendations on how to enhance the effectiveness of virtual teams in the Malaysian higher education sector. Moreover, this study encouraged management to examine its plans and implement effective performance in the virtual team.

References

- Agbi, R. O. (2018). Leadership Communications Strategies for Enhancing Virtual Team Performance. *ProQuest Dissertations and Theses*, 116.
- Aleem, M. (2021). *RELATIONSHIP DEVELOPMENT PROCESSES*.
- Alkoud, S., Zainudin, D., & Sarif, S. M. (2023). Exploring the Roles of Social Presence Practices in Enhancing Virtual Teams Performance in the Higher Education Sector in Malaysia. *International Journal of Academic Research in Business and Social Sciences*, 13(4), 1462 – 1473.
- Azlan, C. A., Wong, J. H. D., Tan, L. K., Shahrin, M. S. N., Ung, N. M., Pallath, V., Tan, C. P. L., Yeong, C. H., & Ng, K. H. (2020). Teaching and learning of postgraduate medical physics using Internet-based e-learning during the COVID-19 pandemic – A case study from Malaysia. *Physica Medica*, 80, 10–16. <https://doi.org/10.1016/j.ejmp.2020.10.002>
- Bartsch, S., Weber, E., Buttgen, M., & Huber, A. (2020). Leadership matters in crisis-induced digital transformation: how to lead service employees effectively during the COVID-19 pandemic. *Journal of Service Management*, 32(1), 71–85. <https://doi.org/10.1108/JOSM-05-2020-0160>
- Ben Sedrine, S., Bouderbala, A., & Nasraoui, H. (2020). Leadership style effect on virtual team efficiency: trust, operational cohesion and media richness roles. *Journal of Management Development*, 40(5), 365–388. <https://doi.org/10.1108/JMD-10-2018-0289>
- Bennett, E. E., & Bierema, L. L. (2010). The ecology of virtual human resource development. *Advances in Developing Human Resources*, 12(6), 632–647. <https://doi.org/10.1177/1523422310394789>
- Bhat, S. K., Pande, N., & Ahuja, V. (2017). Virtual Team Effectiveness: An Empirical Study Using SEM. *Procedia Computer Science*, 122, 33–41. <https://doi.org/10.1016/j.procs.2017.11.338>
- Bickle, J. T., Hirudayaraj, M., & Doyle, A. (2019). Social Presence Theory: Relevance for HRD/VHRD Research and Practice. *Advances in Developing Human Resources*, 21(3), 383–399. <https://doi.org/10.1177/1523422319851477>
- Breuer, C., Hüffmeier, J., Hibben, F., & Hertel, G. (2020). Trust in teams: A taxonomy of perceived trustworthiness factors and risk-taking behaviors in face-to-face and virtual teams. *Human Relations*, 73(1), 3–34. <https://doi.org/10.1177/0018726718818721>
- Caligiuri, P., De Cieri, H., Minbaeva, D., Verbeke, A., & Zimmermann, A. (2020). International HRM insights for navigating the COVID-19 pandemic: Implications for future research and practice. *Journal of International Business Studies*, 51(5), 697–713. <https://doi.org/10.1057/s41267-020-00335-9>
- Chaudhary, P., Rohtagi, M., Singh, R. K., & Arora, S. (2022). Impact of leader's e-competencies on employees' wellbeing in global virtual teams during COVID-19: the moderating role of emotional intelligence. *Employee Relations*, 44(5), 1042–1057. <https://doi.org/10.1108/ER-06-2021-0236>
- Cheng, X., Bao, Y., Yu, X., & Shen, Y. (2021). Trust and Group Efficiency in Multinational Virtual Team Collaboration: A Longitudinal Study. *Group Decision and Negotiation*, 0123456789. <https://doi.org/10.1007/s10726-020-09722-x>
- Clark, D. A. G., Marnewick, A. L., & Marnewick, C. (2019). Virtual Team Performance Factors: A Systematic Literature Review. *IEEE International Conference on Industrial Engineering and Engineering Management*, 40–44. <https://doi.org/10.1109/IEEM44572.2019.8978809>
- Don, M. A. M., Rosli, M. R., Senin, M. S. M., & Ahmad, M. F. (2022). Exploring Social Presence

- Theory in The Online Classroom: The Case for Online Presence. *International Journal of Academic Research in Business and Social Sciences*, 12(1), 26–40.
- Elyousfi, F., Anand, A., & Dalmasso, A. (2021). Impact of e-leadership and team dynamics on virtual team performance in a public organization. *International Journal of Public Sector Management*, 34(5), 508–528. <https://doi.org/10.1108/IJPSM-08-2020-0218>
- Gupta, S., & Pathak, G. S. (2018). Virtual team experiences in an emerging economy: a qualitative study. *Journal of Organizational Change Management*, 31(4), 778–794. <https://doi.org/10.1108/JOCM-04-2017-0108>
- Han, S. J. (2017). Testing a Process Model For Student Project Teams in Higher Education with the Relationships Among Shared Leadership, Psychological Safety, Team Processes, Team Performance, and Creativity. *ProQuest Dissertations and Theses*, August, 238.
- Henry, M. S., le Roux, D. B., & Parry, D. A. (2021). Working in a post Covid-19 world: Towards a conceptual framework for distributed work. *South African Journal of Business Management*, 52(1), 1–11. <https://doi.org/10.4102/SAJBM.V52I1.2155>
- Krishnaswamy, J., Hossain, Z., Kavightha, M. K., & Nagaletchimee, A. (2019). What matters for higher education success of private educational institutions? Senior students' perceptions in Malaysia. *Journal of Applied Research in Higher Education*, 11(3), 616–635. <https://doi.org/10.1108/JARHE-07-2018-0142>
- Lin, C., Standing, C., & Liu, Y. C. (2008). A model to develop effective virtual teams. *Decision Support Systems*, 45(4), 1031–1045. <https://doi.org/10.1016/j.dss.2008.04.002>
- Oh, C. S., Bailenson, J. N., & Welch, G. F. (2018). A systematic review of social presence: Definition, antecedents, and implications. *Frontiers Robotics AI*, 5(OCT), 1–35. <https://doi.org/10.3389/frobt.2018.00114>
- Osman, Z., Ismail, Z., Khan, A. B. N., & Alwi, N. H. (2020). Determinants of Work-from-Home Productivity among Higher Education Institution Employees during the Covid-19 Pandemic in Malaysia. *ASEAN Journal of Open and Distance Learning, Special Issue*, 1–13.
- Paul, R., Drake, J. R., & Liang, H. (2016). Global Virtual Team Performance: The Effect of Coordination Effectiveness, Trust, and Team Cohesion. *IEEE Transactions on Professional Communication*, 59(3), 186–202. <https://doi.org/10.1109/TPC.2016.2583319>
- Rahmat, N. H., Rahman, S. A. S. A., Yunus, D. R. M., Sa'adan, N., Jasman, N. H., & Rahman, S. S. A. (2022). Exploring Work from Home Amidst Post-Covid. *International Journal of Academic Research in Business and Social Sciences*, 12(1), 1070–1083.
- Sagar, S K, Arif, M., Oladinrin, O. T., & Rana, M. Q. (2021). Exploring Factors Affecting Trust in Construction Virtual Project Teams. *J Archit Eng Tech*, 10(11), 254.
- Sagar, Sukhwant Kaur, Oladinrin, O. T., Arif, M., & Rana, M. Q. (2022). Interpretive structural model of trust factors in construction virtual project teams. *Construction Innovation*. <https://doi.org/10.1108/CI-09-2021-0179>
- Schulze, J., Schultze, M., West, S. G., & Krumm, S. (2017). The Knowledge, Skills, Abilities, and Other Characteristics Required for Face-to-Face Versus Computer-Mediated Communication: Similar or Distinct Constructs? *Journal of Business and Psychology*, 32(3), 283–300. <https://doi.org/10.1007/s10869-016-9465-6>
- Sergey, B., Denis, B., Natalia, B., & Victoria, B. (2020). The Complementary Technique in Emotional Infection of the Virtual Project Team. *2020 IEEE 15th International Scientific and Technical Conference on Computer Sciences and Information Technologies, CSIT 2020 - Proceedings*, 2, 135–140. <https://doi.org/10.1109/CSIT49958.2020.9322044>
- Sia, J. K. M., & Adamu, A. A. (2021). Facing the unknown: pandemic and higher education in

- Malaysia. *Asian Education and Development Studies*, 10(2), 263–275. <https://doi.org/10.1108/AEDS-05-2020-0114>
- Soon, C. C., & Salamzadeh, Y. (2020). *THE IMPACT OF DIGITAL LEADERSHIP COMPETENCIES ON VIRTUAL TEAM EFFECTIVENESS IN MNC COMPANIES IN Chee Cheng Soon ; Yashar Salamzadeh Introduction Industry forward National Policy on Industry 4 . 0 report has mentioned that under a global view , a series of.* 8(2), 219–253.
- Tan, C. K., Ramayah, T., Teoh, A. P., & Cheah, J. H. (2019). Factors influencing virtual team performance in Malaysia. *Kybernetes*, 48(9), 2065–2092. <https://doi.org/10.1108/K-01-2018-0031>
- Toquero, C. M. (2020). Challenges and Opportunities for Higher Education amid the COVID-19 Pandemic: The Philippine Context. *Pedagogical Research*, 5(4), em0063. <https://doi.org/10.29333/pr/7947>
- Turesky, E. F., Smith, C. D., & Turesky, T. K. (2020). A call to action for virtual team leaders: practitioner perspectives on trust, conflict and the need for organizational support. *Organization Management Journal*, ahead-of-p(ahead-of-print). <https://doi.org/10.1108/omj-09-2019-0798>
- Velez-Calle, A., Mariam, M., Gonzalez-Perez, M. A., Jimenez, A., Eisenberg, J., & Santamaria-Alvarez, S. M. (2020). When technological savviness overcomes cultural differences: millennials in global virtual teams. *Critical Perspectives on International Business*, 16(3), 279–303. <https://doi.org/10.1108/cpoib-01-2018-0012>
- Zaharie, M. (2021). Challenges, trust and performance in virtual teams: examining the role of openness to experience and preference for virtual teams. *Team Performance Management*. <https://doi.org/10.1108/TPM-07-2020-0066>
- Zander, L., Kang, O., Mockaitis, A. I., & Zettinig, P. (2021). The dual role of trust in creative global virtual teams: Implications for leadership in times of crisis. *International Business and Management*, 36, 157–175. <https://doi.org/10.1108/S1876-066X20220000036014>
- Zhang, Y., Zhao, R., & Yu, X. (2022). Enhancing virtual team performance via high-quality interpersonal relationships: effects of authentic leadership. *International Journal of Manpower*, 43(4), 982–1000. <https://doi.org/10.1108/IJM-08-2020-0378>
- Zuofa, T., & Ochieng, E. G. (2021). Investigating Barriers to Project Delivery using Virtual Teams. *Procedia Computer Science*, 181(2019), 1083–1088. <https://doi.org/10.1016/j.procs.2021.01.304>

Official Websites

- Education Malaysia global services (EMGS), <https://educationmalaysia.gov.my/why-malaysia/>. Accessed on 25/2/2023.
- Malaysian Qualification Agency (MQA), <https://www.mqa.gov.my/pv4/>. Accessed on 25/2/2023.