



Business, Tourism and Informatics Symposium 2021



Promoting a scholarly culture through research and exchange of ideas,
experiences and insights for personal growth and professional development



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Message from the Symposium Coordinator

On behalf of the Faculty of Business and Informatics, Divine Word University, I welcome you all to our 3rd Business, Tourism and Informatics Symposium 2021. The theme of this year's symposium is 'promoting a scholarly culture through research and exchange of ideas, experiences and insights for personal growth and professional development'. The symposium provides an avenue to promote a scholarly culture, which can positively impact our teaching, research and other professional activities.

The Symposium allows academics and non-academics to present the outcomes of their research activities, to share knowledge with others, both within and outside the University. The Symposium provides an opportunity to build and maintain a research culture and for staff to work together in the spirit of teamwork and collegiality in hosting such an event. It enables those involved to discover, develop and realize their gifts and potential, and utilize their knowledge, skills and experiences to contribute to the body of knowledge in their respective fields.

The Symposium's book of abstracts can be accessed via <https://www.dwu.ac.pg/en/index.php/faculty-pages/277-fp-fbi/fbi-dept/fp-fbi-mcs/788-research-fbi>. During the symposium, we will launch Volume 4 of the Electronic Journal of Informatics, which can be accessed via <https://www.dwu.ac.pg/en/index.php/faculty-pages/277-fp-fbi/fbi-dept/fp-fbi-mcs/709-fbi-e-journal>. Hosting this Symposium and launching Volume 4 of the Journal are great achievements for the Faculty and University for creating and maintaining research and scholarly culture. They uplift standards and motivations for future research and knowledge exchange.

Once again, welcome to the Business, Tourism & Informatics Symposium 2021; an event we can all remember.

Associate Professor Martin Daniel (PhD)

Coordinator | Business, Tourism & Informatics Symposium

Chief Editor | Book of Abstracts

Dean | Faculty of Business & Informatics

Divine Word University



Collaborative and inclusive leadership at the local level: A woman's role in PNG's rural tourism

Fiona Pisong N'Drower

Collaborative and inclusive leadership at the local level in rural communities in Papua New Guinea (PNG) is still a struggle. This was observed while conducting fieldwork in eight different communities. The main purpose of the fieldwork was to assess the effectiveness of Community Based Tourism in rural communities using an Indigenous Research Method, modified to suit PNG's cultural context. It was found that females played a secondary role in facilitating tourism initiatives within their communities. This scenario mimics other development projects at the grassroots level. Few women leading tourism initiatives are a result of their society's cultural practice. This could be addressed by encouraging women through policies promoting gender equality and equity that is filtered down and emphasized not just at the global and national level but right through to the local level within societies. Effective mechanisms need to be put in place to self-regulate the implementation of inclusive partnership, leadership and ownership at all levels of service delivery surrounding development. This will ensure that there is equal participation for the common good and that there are equal economic benefits especially in communities that are considered to be at the bottom end of the economic spectrum. Such communities make up the populace of PNG. Further, international agencies can influence inclusiveness and ethical prosperity by re-adjusting their requirements for offering assistance to locally-led developments, which should be done in light of the locals' needs and include all stakeholders.

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Exploring the challenges of small-scale women tourism entrepreneurs in the urban Madang District, Papua New Guinea

Helen Gimbo

This study explored the challenges of local women tourism entrepreneurs in the urban Madang District, Papua New Guinea. The study aimed to understand how women are impacted by their engagement in small scale tourism businesses, identify the barriers or challenges to the success of their business and determine how these challenges might be overcome by relevant governing bodies. This qualitative research applied explorative methods of data collection through semi-structured interviews and the data were analysed using the thematic analysis. Findings revealed that the effects of tourism entrepreneurship engagement on women are mostly economic, social, personal and cultural. The barriers to their success in tourism entrepreneurship were found to be financially, socially, culturally and politically oriented. Findings suggest that the government needs to address local law and order issues, assist women with project funding or support initiatives and establish suitable infrastructure to ease the facilitation of their enterprises. Hence, the results could be useful for the government and tourism policymakers to make informed decisions on the development of local tourism SMEs in Madang, particularly those owned and operated by women.

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2018 APEC Summit and national pride: An emerging finding using in-depth interviews

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This paper discusses the importance of the in-depth interview as a method that is underlined by interpretivism in social research. In the project *Extraordinary Events in Extraordinary Places: Understanding the Legacy of the 2018 APEC Summit in Port Moresby*, conducted by four lecturers in the Department of Tourism and Hospitality Management, data was elicited from in-depth interviews to explore participants' accounts and interpretations of the legacies of a mega-event. Network sampling was used to select key informants who are part of tourism's wider society and whose daily lives were affected by the 2018 APEC Summit. Transcripts were read and re-read to identify keywords and phrases that exemplify the concept *legacy*. Categories were created from these words and phrases using in vivo codes. Checks for inter-coder reliability were used to ensure there was agreement in analyzing and interpreting the data. An emerging finding is the groundswell of national identity and national pride that participants commonly felt. However, political corruption has eroded the nationalistic and diplomatic role that committed public servants at the Papua New Guinea Tourism Promotion Authority working with multi-lateral partners, promoted in planning and staging important parts of the 2018 APEC Summit. The legacy of nationalist sentiments and national pride that mega-events induce are fundamental for nation building.

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Leadership-the boss and the leader: A Papua New Guinea perspective

Roy Baelua

Many businesses and organizations are not only multi-national but also produce multiple products. They are operating globally and in a boundary-less environment. Managing multi-national corporations can be very challenging. With the constantly changing business environment, these challenges could easily develop into a crisis and become a threat to the survival of organizations if not properly handled. On the same note, effective management of small and medium-sized enterprises in Papua New Guinea is critical. While advances in technology have made it easier for organizations to compete in a global economy, it may not make it easier for them to remain competitive with so many enterprises competing. So how do some organizations cope successfully while others continue to operate haphazardly, end up in a declining position and, in worse scenarios, downsize or end up winding down? Among others, could it be the kind of boss or leadership styles and lack of leadership skills in these organizations as one of the reasons for their downfall? This paper discusses some of the pitfalls of leadership in the PNG setting in comparison with commonly accepted management and leadership principles in the global setting.

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Economic tripartite partnership: Smallholder empowerment in Papua New Guinea

Wilson Go

This paper focuses on advocacy for the empowerment of smallholder groups for increased productivity, especially in an agricultural country like Papua New Guinea. Smallholder empowerment is the responsibility of both the government and the industry partners, to pave the way for the economic tripartite partnership: the government, the industry partner(s) and the smallholders. The advocacy focuses on two main areas: (a) policy, institutions and governance, and (b) farms and communities. A select of four made in PNG products demonstrate home-grown success stories (or failures) in smallholder empowerment in PNG: Trukai Rice, New Britain Palm Oil, Besta, and Ox & Palm. It is important that the government's policy framework for agriculture must be consistent with the principles of agricultural economics wherein the interdependence between the agriculture sector and the industry must be observed, and that both sectors must be developed in parallel with each other. Included in this presentation are the advocacy aims and objectives, activities, and outcome areas expected in accordance with the FAO Regional Initiative (Europe & Central Asia). Smallholders, when empowered, are spectators no more but become active participants in the harvest of their natural resources.

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Human Development Index: PNG progress optimization model

Raunu Gebo Sarsoruo
Michaelynne Yaguro

Human Development Index (HDI) is a holistic measure of human well-being, which is essential for a nation's strategic development plan. The purpose of this paper is to identify the Papua New Guinea's government planning policies that improve the indicators of the PNG HDI and propose modifications to the indices to achieve the PNG Vision 2050 goals. Modifying the indices would yield more sensible policies that will enhance PNG to be ranked among the top 50 countries in the United Nations Development Program's Report (UNDP). Currently, PNG HDI is ranked at 0.555 and is categorized as a medium human development country. Using an optimization model on current PNG HDI data through an objective function, a maximized ranking for Papua New Guinea is generated. The objective function, is solved through linear programming with a maximized value between 0.8 to 0.9, thus placing PNG amongst the top very high human development countries and thereby achieving its' 2050 goal.

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Predicting the spread of COVID-19 in PNG using SIR model incorporating quarantine and testing

Cyril Sarsoruo
Ronnie Teloma Pakau

The increase of COVID-19 cases signals a health and economic crisis in Papua New Guinea (PNG). The human race has been put to challenge to devise solutions to fight this deadly disease. Epidemiologists make use of compartmental models such as the SIR model to model the spread of disease and predict its future course. This paper presents a modified SIR model augmented to incorporate quarantine and testing to control and reduce the spread of COVID-19. The respective rates of the SIR model are formulated using the available data online from PNG COVID-19 Statistics and Our World in Data websites. These rates are incorporated into the modified SIR system of equations and the Python Trinket platform is employed to display projections of the model. The results show that increasing the rates of testing and quarantine decreases the rate infection rate in the susceptible population. These findings may predict the next wave of COVID-19 and provide useful information to the government so it can adequately allocate its limited resources to fight against COVID-19 in PNG.

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Using big data to improve health service delivery in Papua New Guinea

Maryanne Bagore

Massive amounts of data can be generated, stored and analyzed by public and private sectors in Papua New Guinea (PNG) to improve the health service delivery to the general public and the citizens. In PNG's health sector, big data can be generated from various sources including biomedical, patients' medical records, medical test results, hospital records and treatments. These massive amounts of data need to be properly managed and analyzed to produce meaningful information for planning, decision making and delivery of health services. In PNG there are challenges faced in handling big data and health care providers need to build appropriate infrastructure to provide better solutions for improving public health care. This paper presents how big data can be used in the health sector to improve health services delivery.

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Factors influencing the adoption of wearable devices in healthcare in developing countries

Rodney Gunik

The use of wearable devices in healthcare is transforming the way health services are delivered to the population around the world. Developing countries are no exception where the bulk of the population still lives in remote communities. The use of wearable devices on an existing telecommunication technology infrastructure brings about observable outcomes such as improved access to specialists, increased patient satisfaction with care, improved clinical outcomes, reduction in emergency cases, and saving healthcare costs. In this paper, various models of technology adoption are discussed, a qualitative systematic literature review (SLR) is conducted in the stream and the results are presented from 10 out of 93 papers reviewed. The limitations in SLR will be discussed as the basis for conducting further research in Papua New Guinea.

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Papua New Guinea tourism crisis management insights: Lessons from COVID-19

Alcinda Trawen

Tourism can show a considerable capacity to rebound after a crisis situation. However, in the short term, the impact of negative events on the sector can be significant. In light of the COVID-19 pandemic, the Papua New Guinea Tourism Promotion Authority undertook a study on the management of the pandemic by the tourism sector and the organization's role in managing the impacts of COVID-19. This study employed a quantitative research method and convenience sampling. The data was collected using survey questionnaires, facilitated through Survey Monkey. Statistical analysis was used to draw meaning from the data, which was done using Microsoft Excel. The study found that communications, crisis management strategy and tourism specific support are essential elements for implementation to support crisis management in the tourism industry in Papua New Guinea (PNG). Findings from this study add to the literature by offering a better understanding of tourism destination crisis management in PNG.

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Reviving tourism in the new normal through staycation: Through the eyes of an observer

Fiona Pisong N'Drower

In the wake of COVID-19, the notion of staycations has resurfaced in the tourism industry, in particular, destinations where tourism is a major player in their economy. Staycations refers to a holiday spent in one's home country rather than abroad or one spent at home. It may involve day trips to local attractions. Others have referred to it as proximity tourism and even at times slow tourism: traveling slowly and locally. Papua New Guinea (PNG) as a tourist destination could embark on staycations as the way forward in boosting its tourism industry. PNG as a destination relies almost entirely on international tourists for its tourism industry. Similar to other countries, the COVID-19 pandemic has impacted the tourism industry drastically. Staycations, when embraced can redefine local tourism in PNG. Papua New Guineans travelling to other places in PNG will appreciate and respect the diverse culture that is taken for granted as there is more understanding through exposure. This will also support the local businesses, both formal and informal sectors. Staycations means travelling fewer kilometres compared to travelling overseas and staying fewer nights in accommodation providers, which in turn promotes sustainability. Staycations has the potential to revitalize tourism, promote sustainable tourism and national unity as more indigenous Papua New Guineans learn each other's way of life and culture.

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Adventure travel and its impacts on teaching and learning in the Department of Tourism & Hospitality Management

Theresia Wome Kau

Adventure travel is a type of tourism, involving exploration with perceived risk, specialized skills and physical exertion. It is also defined as any tourist activity involving physical activity, cultural exchange and engagement with nature. Planned student field trips in tourism could also take the form of adventure tourism. This paper is based on personal reflections from involvement with adventure travels in tourism from 2016 to 2021 as a tourism lecturer at the Divine Word University. The participants of the excursions were self-motivated University students and staff. The travels were voluntary, well organized, self-funded and consisted of tourism components that involved physical activity, cultural exchanges and interactions, and engagement with nature. The reflections are on how the experiences in these travels have affected concerned students in learning in relation to units offered in tourism and hospitality management. An additional question is on how these travels have had life-long impacts on students. Experiences from adventure travels have positive effects on tourism knowledge delivery through teaching. Thus, enhanced learning and teaching occur through adventure travels. The most important lessons learnt through adventure travels is real-world learning, access, socio-economic growth and academic impact. Various challenges are encountered but adventure travel has a positive impact on teaching, learning and the curriculum experienced by all adventurers involved.

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Biodata

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Challenges in teaching a large class and its benefits in the Department of Business Studies

Kosley Wara

Teaching a large class is a challenge, but it also offers many opportunities to improve your teaching and make it more enjoyable and rewarding for yourself and the students. In a large class setting, you have the opportunity to improve your organizational and managerial skills as you work to creatively organize your classroom into a comfortable, welcoming learning environment and to manage the many students within it. Large classes offer the opportunity to improve your interpersonal skills as you use different ways to know each student as an individual through their work in class or their lives outside of it. Students will also equally enjoy getting to know you. Large classes also allow you to improve your teaching, presentation skills, eLearning skills and how to effectively use other virtual teaching tools. The value of a large class is that it contains a diversity of students and learning styles, and you can use many different, active, and fun ways of teaching. You will also improve your evaluation skills as you devise a variety of ways to tell whether your students have really learned what was delivered to them. Your students can also benefit from being in large classes when they share many different ideas and interesting life experiences.

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Online unit delivery of flexible learning programs in the Faculty of Business and Informatics

Martin Daniel

Institutions of higher education around the world are embracing the use of online learning platforms to facilitate their teaching and learning activities, a development made possible by the rapid expansion of information and communication technologies. These institutions are using learning management systems such as Moodle and other tools to deliver their units online. The Divine Word University has been using Moodle to deliver its units through blended mode. Some units are now being delivered online. In this paper, the author presents his experiences of delivering units of flexible learning programs online using Moodle and other complementary tools in the Faculty of Business & Informatics. He also presents some main challenges encountered in the online delivery of these units. Finally, he suggests some ways to address these challenges for improvement.

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Program for the symposium

8:30-8:35am	Welcome and program outline, Master/Mistress of Ceremony
8:35-8:40am	Opening prayer, Raunu Gebo-Sarsoruo
8:40-8:45am	PNG National Anthem & Pledge, led by Nigel Totona
8:45-8:55am	Opening remarks Professor Fr Philip Gibbs, President of the Divine Word University
Tourism and Hospitality (A)	
8:55-9:05am	Collaborative and inclusive leadership at the local level: A woman's role in PNG's rural tourism Fiona Pisong N'Drower
9:05-9:15am	Exploring the challenges of small-scale women tourism entrepreneurs in the urban Madang District of Papua New Guinea Helen Gimbo
9:15-9:25am	2018 APEC Summit and national pride: An emerging finding using in-depth interviews Vanessa Uiari & Nathaline Murki
9:25-9:35am	Questions and Comments
Business and Management	
9:35-9:45am	Leadership - boss and leader: A Papua New Guinea perspective Roy Bauelua
9:45-9:55am	Economic tripartite partnership: Smallholder empowerment in Papua New Guinea Wilson Go
9:55-10:00am	Questions and Comments
10:00-10:10am	Keynote Speaker Professor Maretta Kula-Semos, Director Quality Assurance, Divine Word University
10:10-10:40am	Break
Mathematics and Technology	
10:40-10:50am	Human Development Index: PNG progression optimization model Raunu Gebo-Sarsoruo & Michaelynne Yaguro
10:50-11:00am	Predicting the spread of COVID-19 in PNG using SIR model incorporating quarantine and testing Cyril Sarsoruo & Ronnie Teloma Pakau
11:00-11:10am	Using big data to improve health service delivery in Papua New Guinea Maryanne Bagore
11:10-11:20am	Factors influencing the adoption of wearable devices in healthcare in developing countries Rodney Gunik
11:20-11:30am	Questions and Comments
Tourism and Hospitality (B)	
11:30-11:40am	Papua New Guinea tourism crisis management insights: Lessons from COVID-19 Alcinda Trawen
11:40-11:50am	Reviving tourism in the new normal through staycations: Through the eyes of an observer Fiona Pisong N'Drower
11:50-11:55am	Questions and Comments
Teaching and Learning	
11:55am - 12:05pm	Adventure travel and its impacts on teaching and learning in the Department of Tourism & Hospitality Management Theresa Wome Kau
12:05-12:15pm	Challenges in teaching a large class and its benefits in the Department of Business Studies Kosley Wara
12:15-12:25pm	Online unit delivery of flexible learning programs in the Faculty of Business and Informatics Martin Daniel
12:25-12:35pm	Questions and Comments
Closing remarks	
12:35-12:45pm	Launching of Volume 4 of the Electronic Journal of Informatics Associate Professor Martin Daniel, Coordinator and Chief Editor of the Journal
12:45-12:55pm	Closing remarks, Associate Professor Martin Daniel, Coordinator of the Symposium