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Content

Digital Trust @ the Workplace

Trust Formation @ the Digital Workplace

Kuanchin Chen[1], İrge Şener[2], Fatih Çetin[3], Markus Launer[4]

ABSTRACT

Trust has a vital role in work life. Researchers have been studying trust for several decades, but there are still a number of definitions for trust mainly because people's trust thresholds differ in accordance with their attitudes, dispositions, behaviors, perceptions, decisions or situation (Rousseau et al, 1998). Although there is no universally accepted definition of trust, trust has commonly been associated with expectations from other people (i.e. Rotter, 1967; Rempel et al, 1985; Mayer et al, 1995). Existing research establishes that trust is an expectation instead of a decision or behavior.

It is generally accepted that there are several types of trust. Broadly, it has been conceptualized either as a trait or state (Mooradian et al, 2006). While state definitions explain trust as an expectation depending on the shared experiences repeated over time (i.e. relational trust, Rousseau et al, 1998); trait definitions explain trust based on individual's personality (i.e. 'propensity to trust', Mayer et al, 1995; 'dispositional trust', Kramer, 1999). Dispositional trust or propensity to trust reflects a person's general willingness to trust others even without prior information or encounters (Mayer et al, 1995). Such propensity has been identified as a key driver for many forms of trust, perceptions and behavioral outcomes (Colquitt et al, 2007; Gill et al, 2005; Greenberg et al, 2007; McKnight et al, 1998).

Despite that such a direct relationship between propensity to trust and the act of trusting others has been linked in the literature, there has been mixed results in terms of its strengths and how it manifests itself in the resulting variables. Studies on variables that serve as mediators or "enablers" of the relationship between propensity of trust and outcome variables are beginning to emerge, but little is known in how this relationship is actualized in the digitalized workplace. Here in this research we explored how propensity of trust is associated with trust in others' behaviors in the digitalized environment through intermediate states, such as trust in people in the workplace.

As Blau (1964: 94) put forth "social exchange requires trusting others to discharge their obligations". Mutual relations indicate successful social exchanges which lead to the formation of trust. Therefore, propensity of trust is central for relationships and a key component for development of trust on other parties. Based on the assumptions of social-exchange theory (Blau, 1964), trustor and trustees develop dependency on each other. Bernerth and Walker (2009) suggest that, if an employee has a propensity to trust others, he or she will more likely to focus on the positive aspects of social exchanges rather than the negative aspects. As a result,

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focusing on positive aspects will lead to more trust. Accordingly, we propose that employees' propensity of trust will have a positive effect on trust in others' behaviors in the digitalized environment.

Most researchers agree that competence, benevolence, and integrity are the main factors in constructing trusting beliefs. Competence indicates that skills, abilities, and characteristics will have an effect on how trust is derived within some specific domain. Benevolence represents the good intentions of trustee that trusted others will be positive. Integrity is the expectation that trustee will act as accepted socially, such as being fair or objective. All these are applicable in work environments since employees trusting beliefs and perceptions are linked to others' favorable attributes in terms of their competence, benevolence, and integrity. For instance, people tend to build trusting beliefs about others with a high level of competency. Therefore, we propose that the skills and competencies of IT experts will likely be one source to engender trust and this dimension will act as a mediator between the propensity of trust and trust in others' behaviors in the digital environment. We also propose that trusting supervisors can mediate this relation based on the benevolence and integrity expectations of employees.

We have used a worldwide sample of 5579 employees from more than 30 countries to test our hypotheses. The data were from the EU-funded research project named "Digital Trust @ the Workplace" (Launer, n.d.). Following the data protection restrictions, an electronic questionnaire was employed to collect the data through the snowball sampling method. The questionnaire consists of 14 items constructed on measuring the trust propensity of individuals, trust in people in the workplace and trust in others' behaviors in the workplace. A structural equation model was constructed and tested to explore multiple effects among variables using formative and reflective structures of variables in the SmartPLS program. Based on findings, employees' propensity of trust has significant direct (direct effect=.072, $p<.01$) and indirect effects (total effect=.149, $p<.01$) on trusting in others' behaviors in the digitalized environment with the mediators of trust to IT experts (indirect effect=.077, $p<.01$), and trust to supervisors (indirect effect=.071, $p<.01$) independently.

The results show that direct effect between the trust propensity of individuals and trust in others' behaviors is weaker than its indirect effects through the mediators, such as trust in people in the workplace. This finding is a piece of clear evidence that trusting others' behaviors in the digital environment are not only shaped by the propensity of individuals but also formed by social environment consisting IT experts and supervisors.

Keywords: Trust, Trust formation, Digital Workplace

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Data Protection and Privacy by Employers? Measuring Digital Trust @ the Workplace

Dave E. Marcial[5], Jade O. Montemayor[6], Fredlie P. Bucog[7] & Markus A. Launer[8]

ABSTRACT

Data protection and privacy is among the critical aspects in the workplace. It poses challenges to many businesses to gain trust and confidence among its employees and workers. This paper is aimed at determining confidence on data protection and privacy in the workplace. Specifically, this article presents the measurement of the level of confidence on data protection and privacy in the workplace. It also presents the relationships between trust and socio-demographics, employment, and technologic profile of the respondents. A total of 4843 were analyzed from 36 countries. An online survey questionnaire was used utilizing the Marcial-Launer Digital Trust in the Workplace Questionnaire. Results show that the overall mean of the trust level as perceived by the respondents is moderate (= 3.01). Likewise, the continent, country's innovation index, country's income level, internet satisfaction, job position, company form, and company size were significant predictors of trust level on data protection and privacy. It is concluded that employees are confident, which is affected by many variables, that their workplaces are protecting their data and privacy. There is a need for any organization to improve its data archiving practices.

Keywords: digital trust, data protection and privacy, workplace

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Digital Trust of Expatriates and Non-Expatriates at the Workplace: Evidences of Differences and Equities

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Background. The increase in the rate of cross-country movement of people around the world was the result of advancements in transportation, international travel boom and economic growth. In particular, the requirement of organizations, both typical business and not-for-profit, to send their managers as global talents overseas has contributed to the migration phenomenon. Likewise, seeking for greener pasture such as professors, engineers, diplomats, managers, and other professionals moving to other countries through international migration and global talent demand was evident during the past 50 years and it is rising year-on-year. Outside of their home country, expatriates, referred as non-locals, automatically becomes part of the digital environment of their host county. It exposes the expatriate to some differences or similarities in the level or complexity of digitalization of his home country to that of the host country.

In the same manner, citizens, referred here as locals, comprise the majority of the employees at the workplace where non-locals are also part of. Within and outside the organization, the perception of digital trust by locals and non-locals poses some discrepancies. Marcial and Launer (2019) with their proposition of a new model suggest a framework model for researching digital trust at the workplace. Thereby, people, processes and technology are used to measure the level of digital trust (PWC, 2021). The three aforementioned dimensions by PWC cover and structure the key mechanisms of digital trust at the workplace.

The first dimension includes people refers to the interpersonal spheres that are related to digital trust. The factors are management from top level to front line managers, employees dealing with IT- and data support services, employees dealing with external entities, and employees that install, use, and maintain electronic information system. The second dimension includes digital processes. The factors refer to collecting, processing, storing personal data, and securing digital data within the company, between companies, and external in the internet and on social media. The third dimension is digital trust in Information Technology. The factors include hardware, software, databases, and telecommunications. The interplay of the three dimensions that involuntarily revolves around the individuals at the workplace bring out how positively or negatively one responds and attaches himself.

The tasks, routines and activities at the workplace require the employees to engage in interaction with their colleagues or outsiders; to be part of the system in the processes; and, enforce the use of technology for personal or professional purposes. As a point in case, however, some are not comfortable with closed-circuit television (CCTV), some would just want to keep their personal digital space such as social media and emails detached from the workplace, some do not trust the reliability of the speed and security of the Internet, others distrust their managers and others are just not willing to be part of the system undertaking such processes. With these dynamics of the connection of the employee (both locals and non-locals) to the dimensions of

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people, processes and technology, there must be some variances and gaps in trust among expatriates and citizens in terms of their attitude and response to the digital environment.

Research Question. This empirical study investigates if there are evidences of differences and equality on how locals and non-locals construct digital trust. It identifies whether non-locals have the same level of digital trust with locals inside the organization given the three dimensions of people, processes and technology.

Methods. A global survey through a network of researchers and professors around the world was conducted. The questionnaire used was part of the survey developed by Marcial & Launer, 2019 through the EU funded research project "Digital Trust and Teamwork" (Launer, Schneider, Borsych, 2019; Launer, Borsych, Alvermann, 2019) based on the definitions by Launer (2014). The questionnaire was pre-tested with the calculation of test-retest reliability coefficients and the internal consistency of the proposed survey questionnaire. The measurement of the test-retest reliability was done in Germany and the Philippines (n=82). The questionnaire's internal consistency was measured through the pretesting (n=376) of the survey (Launer/Marcial/Gaumann, 2020 and Marcial/Launer 2021).
The main study showed a total of 5,570 respondents of localsad non-locals from over 30 different countries in 13 languages. Thereof, the supply chain serving the hotel industry was extracted (n=768). The implication for artificial intelligence and digital trust were explored by Kitzmann & Launer (2021). Further results on Digital Trust at the Workplace were presented at the 4th international Service Management Congress at Ostfalia University at the Campus Suderburg in 2020 (Launer, Svenson, Ohler, Meyer, 2020). Samples food processing companies (n=135), wholesale companies (n=162), and hotel, restaurant & tourism companies (n=278) were drawn from a worldwide sample. In order to calculate the level of digital trust, the three dimensions (people, processes, technology) with all its factors under which were taken into consideration. In measuring the level of digital trust, standardized regression weighs, intercepts, covariances and variances of both locals and non-locals for all the factors in the dimension were calculated. Measurement equivalence by Hu, Pellegini, Pellegrini, Scandura (2010) was used to examine cross-cultural differences based on measurement equivalance of Mentoring Functions Quesionnaire (MFQ-9) across diverse cultural settings. With this method of analysis, the series of multi-country confirmatory factor analyses supported full configural invariance, full metric invariance, and partial scalar invariance between locals and non-locals.

Results. The general results indicate that the construct of trust on people, processes and technology is not same for locals (expatriates) and non-locals (citizens) worldwide. Although, some factors need to be discussed in terms of difference, and other factors need to be discussed in terms of equality. There showed that some factors are different in between expatriates and citizens (in the same country), and most of the factors indicate that they are same between locals and non-locals. The metric equity showed differences. These differences are factor loadings (regression weights). Factor loadings are equal or not equal for locals and non-locals. The scalar equity also showed differences. These are observed scores (intercepts). Also, the residual equity

showed differences. These are relations between factors (covariances) and residual variances (error variances).

Limitations. There are also some limitations concerning the results. First, focusing the digital trust in the workplace, all these findings are firstly tested in a hotel supply chain in the literature. For confirming and generalizing the findings future studies with large-scaled samples from each supply chain, country, industry, or region are needed. Second, this primary study employing a relatively comparative design in which how and why questions are not explored. For understanding the reasons for differences in the findings future studies should focus on possible significant factors that explain these structures.

Keywords: Digital Trust, Expatriates, Locals, Workplace

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Drivers of Digital Trust across the Supply Chain – An exploratory Study

Kandappan Balasubramanian[12] & T. Narayanaswamy [13]

ABSTRACT

Digitalisation across the globe in many aspects of delivering products and services has revolutionised in building the trust in terms of bringing up new relationship, enhanced loyalty among the consumers and other stakeholders. Digital trust paves the way to customers/consumers coming back time and again to avail the services. This in turn serves as a tool for improving the size of top-line by laying strong foundation for long lasting relationship. There are evidences of loss of trust from across the globe due to leakage of important information, poor quality of products/services, Non-compliance with safety and environmental standards. With the advent of globalization of the economy, supply chain network became enormous in size that several thousand manufacturers and suppliers are spread across the countries. It became so much important to manage this kind of supply chain network where safety, trust and security are the major thrust areas for which utmost care is required. Timely sharing of right data/ information only with the right partners in a secured manner and accordingly executing the timely delivery of services and products in the supply chain network became possible by using digital technology. Volatility, Uncertainty, Complexity and Ambiguity (VUCA) are the major hurdles to be combatted by means of digital trust. The organizations which are able to harness the power of emerging technologies such as Artificial Intelligence, robotic process automation, Internet of Things will be the ones that build and maintain trust with their stakeholders. This research work is aimed at identifying the factors driving the digital trust from the existing literature. The study also discusses various aspects of digital trust with the help of use cases which throw light on practical considerations of implementing digital trust, pros and cons across the supply chains.

Introduction

The world of internet has created better opportunities for both consumers and various parties involved in the supply chain to convey their experiences and expectations regarding products and service. A new model which can demonstrate the effectiveness of digital trust that connects both consumers and business has become more vital in this digital era. (Accenture, 2021). This is turn helps both the above parties to generate better values without the data being misused. Also it is report highlighted that 60% of organizations are not finding relevant data that delivers value. Digitalization opened the doors to producers and consumers to exchange data in real time, enabling them to share status information. This is turn accelerates the complexity of supply chains because of several security issues associated with data and information sharing(Hitachi,2021).There are several security issues faced by supply chain and can be managed effectively by implementing the requirements of a digital supply chain such as cost control, traceability, transparency and accountability (Zhang et al., 2019).

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Research carried out by Gartner in 2019 indicates that 60% of organizations had a network of more than 1,000 third parties, and those networks are only expected to grow. On the other hand survey conducted by Deloitte shows that 40% of manufacturers faced cyber-attack which lead to disturbance in their operations in the year 2019.Deloitte also reported after a research in 2018, the average financial losses due to a data breach in the manufacturing industry was $7.5 million (Moura & Blassiau, n.d.) Thus it becomes very much important to explore the dimensions of digital trust which minimize the loss due data breach and maximize the value to supply chain parties.

Methods

Sample : Firms/companies which use or in the process of using one or more of the recent/emerging technologies such as blockchain, data analytics, internet of things, Artificial intelligence and any other form of digital technologies in their supply chain are selected for the study. Also the firms which have undergone survey for the purpose of implementing digital trust.

Data Collection

The data for the study is collected from the secondary data which are available in the websites of the firms, reports published by various consultancies and agencies, published opinions of the experts in the newspapers/reports. Also, the review of literature relating to the topic is collected from the journals and magazines.

Data Source

Some of the data source used are from the websites of E&Y, KPMG, Accenture, research gate, IEE website.

Empirical Model

The framework/pillars of digital trust that benefits supply chain network of an organization would be identified and consolidated from the existing literature. Also, how these drivers would affect the supply chain performance in real life would be discussed with use cases. Many of the business consulting firms have already carried out little research work on identifying these drivers.

Keywords: Digital trust, Security, Digitalization, Supply Chain, Factors, Emerging technology, Internet of Things.

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Digital Trust in Providing Gender and Anti-Sexual Harassment Support: The Case of an Online University

Joane V. Serrano[14], Margaret Igcasan[15] & Jenine Bagos[16]

ABSTRACT

In the past year or so, responses to the pandemic have accelerated the use of digital technologies as most jobs have become entirely remote, schools have converted to online learning, and automation has been integrated in the operations of various industries. In addition, many countries have established digital arrangements for contact tracing, COVID-19 testing, government relief distribution, and vaccination rollouts. This digital growth has established the tremendous capacity for technology to add value to our society, but it has also revealed how fragile these tools — and people's trust in those tools can be (Chakravorti et al., 2021). According to a study, COVID-19 is a driver of digital transformation and one of the negative effects of it is data security and technology issues (DST) (Subramainam et al., 2021).

Introduction

Digital trust is the confidence users have in the ability of people, technology and processes to create a secure digital world. Digital trust is given to companies/institutions who have shown their users that they can provide safety, privacy, security, reliability, and data ethics with their online programs or devices. When a person decides to use a company's product, site or application they are confirming their digital trust in the business (Ritter, n.d.).

Generally, Filipinos are very trusting. According to the Philippine Trust Index (PTI), Filipinos' trust level to business last 2013 has remained stable from its previous level in 2012. The PTI result showed that 13 percent of the total general public respondents and 10 percent of the total informed public respondents said that they have trusted business institutions particularly the sectors of health services, water, information technology, telecommunications, and tourism (Crismundo, 2014). Moreover, Filipinos' trust in the government has almost tripled last 2017, as more Filipinos are now more satisfied with its ability to ensure peace and security, provide job opportunities and help the poor(Asia News Monitor, 2017). In terms of media, PTI also revealed that Filipinos trust social media more than they trust traditional media (Ballaran, 2017).

As a result, people experience unwanted exposure to pornography. According to studies, exposure to internet pornography can have negative effects on adolescents (Ybarra & Mitchell, 2005; Baxter, 2014; Dwulit & Ryzymski, 2019). It can impact on their attitudes toward sex, their morals and values, and their sexual behaviours. Studies also indicate that online pornography presents gender-stereotypic behavior (Bridges et

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al., 2010). Another negative impact of Information and Communications Technology (ICT) is phishing scams. In 2019, the number of phishing cybercrime incidents in the Philippines was highest for those within the National Capital region, amounting to approximately 58.2 thousand victims. Phishing cyber attacks also occurred more in region three and region 4-a (Statista Research Department, 2021).

In the context of digital trust in education, online learning continues to gain widespread attention and thrive as a legitimate alternative to classroom instruction. Educational institutions and online instructors face the challenge of building and sustaining student trust in online learning environments. Gender issues also arise in online learning. According to B. Anderson (2006), moving a learning community online does not mean that it automatically becomes democratic, less aggressive, or free of the gender-related problems that plague traditional classrooms. Gunn, McSporran, Macleod, and French (2003) also suggested that online learning may have the same asymmetrical gender and power dynamics as traditional face-to-face learning environments, with male students displaying dominant, controlling, arrogant, and other deviant behavior.

Trust in providing support on gender concerns and sexual harassment support is very important. As UPOU provides its services, online, digital trust is a critical aspect. Since the establishment of the university's Office of Gender Concerns (OGC), UPOU has provided a helpdesk for Gender and Anti-Sexual Harassment Support for its constiutents.

In 2020, OGC launched its Freshdesk account to support its constituents for Gender and Development information and services. In the same year, UPOU-OGC also launched an online reporting portal through Google Forms that will allow its constituents and the general public to report cases of Gender-based Violence. UPOU-OGC has also opened its Facebook account and website for anyone who may need immediate support regarding Gender and Anti-Sexual Harassment.

The concerning services provided are usually connected with anonymity and sensitivity. since the people who are in need of support and/or information are society's marginalized, discriminated, and abused sectors. This study will help UPOU in, not only providing a support platform for its constituents, but creating a safe space for them to voice their concerns and a safe digital experience.

Objectives

This study aims to:

1) Determine the strategies employed by UPOU in ensuring digital trust;
2) Discuss the digital trust that UPOU provides in Gender and Anti-Sexual Harassment Support; and
3) Enumerate the improvements UPOU should adapt into their Gender and Anti-Sexual Harassment Support.

Methodology

The study will be using document analysis to discuss UPOU's existing Gender and Anti-Sexual Harassment Support services, specifically: 1) Gender-based Violence Reporting Portal; 2) protocol for addressing report cases, as adapted from the UP System's Anti-Sexual Harassment Code; and 3) availability of digital platforms to contact the Office of Gender Concerns.

The study will also conduct a qualitative interview survey to gather feedback from UPOU's concerned constituents (at least one representative from UPOU's faculty, staff, students, and alumni), that will help discuss how UPOU's support services work, and its digital trust's effectiveness and efficiency. The study will also gather feedback from the interviewees on their suggestions on how UPOU can improve its services and digital trust framework.

A comparative analysis will also be conducted by using Harvard Business Review's 4 Dimension of Digital Trust. The first dimension, Behavior, asks us "*how do users actually respond to friction in their digital experiences and environment?*" Frictions are the components that users do for digital trust, these are usually security codes or dual-authentication through mobile phones. This dimension will help the study discuss how UPOU's constituents respond to existing frictions UPOU has for their support services, and what other frictions they may need to establish.

The second dimension is Attitude that will ask *"how do users feel about the digital trust environment?"* This dimension will be used to help the study explain how UPOU's constituents respond to its support services and to its existing digital trust system. This will also be used in determining how UPOU can improve its digital trust system to help its constituents feel safer in it.

The third dimension is the Digital Environment, which asks "*What are the "guarantor" mechanisms for building trust in the digital economy, and how robust are they?*" This will be the basis of the study in enumerating its existing digital trust components for its Gender and Anti-Sexual Harassment Support services. It will also help the study in the services analysis of how competent its digital trust system is.

The last dimension of this focuses on Digital User Experience, which asks "*how do users experience the digital trust environment?"* This will be the study's basis for concretely explaining how and if UPOU's constituents experience digital trust in its Gender and Anti-Sexual Harassment Support services.

Collectively, these four dimensions will be a comprehensive framework for the study's analysis for calibrating UPOU's digital trust in its support services, and for crafting a holistic approach to creating a safer digital experience.

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Increasing Digital Trust by Introductory Programming Education with PBL for Non-IT Students

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ABSTRACT

Due to the information revolution brought about by the development of information devices and the rapid spread of the Internet, information, and communication technologies, which were previously used only by a limited number of people, mainly professionals, have penetrated the lives of ordinary people. In the information society, where information and communication technologies are actively used, they have come to be used to solve various problems to improve people's lives.

To promote a better life in the future information society, knowledge of informatics is necessary regardless of the field of specialization.

As one of them, the authors believe that basic programming knowledge is essential, and the authors promote introductory programming education that everyone should learn. Our introductory programming curriculum is designed not only to provide students with the knowledge to write programs but also to provide them with the knowledge to develop software through a combination of projects.

By learning the concepts of programming and software development projects and enhancing their basic knowledge, the authors believe that students will deepen their interest in digital trust.

In Japan, the curriculum guidelines for elementary schools were revised in 2020, making programming education a compulsory subject. In 2021, the Courses of Study for junior high schools will be revised, and in 2022, the Courses of Study for senior high schools will be revised. In the past, students were required to take two elective courses in the subject of "information", but this revision will make one course compulsory. The course content has also been revised significantly, and all students will be required to learn programming.

In 2016, the Science Council of Japan published reference standards for informatics, followed by guidelines for designing informatics curricula that systematize education from primary to higher education. However, the curriculum in higher education is left up to each university, and there is no curriculum that all students must learn equally.

A survey conducted by the government in 2016 shows that information education is widely implemented in universities as a shared education for all students across the university or in faculties. Computer literacy, information ethics, and security are widely offered, but content related to programming is not often dealt with in the curriculum.

Many universities have curriculums that are implemented in two credits. In addition to securing time, there are issues regarding the availability and skills of teachers to teach.

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Looking ahead to the spread of programming education in elementary schools, programming education in general information education at universities should also change. Moreover, there is an urgent need to provide opportunities for everyone to learn programming effectively in higher education.

Therefore, there is a need for an accessible curriculum to learn and teach for everyone, from elementary schools to universities and society.

It is not possible for a group of IT specialists alone to solve the problems around us, but a diverse group of people must work together to solve them. IT specialists are not always familiar with social issues, while the general public is not always familiar with information and communication technology, and both need to change. Therefore, it is necessary to raise the level of skills in society as a whole so that everyone can acquire basic IT skills, not just the specialized IT personnel who have been required in the past.

In higher education, a wide variety of students are gathered. In particular, in the women's university to which the first author belongs, many students are not good at science-related subjects. Therefore, it is necessary to have teaching materials that allow students to learn regardless of their weaknesses. It is also essential to help them overcome their weaknesses through this experience.

In August 2012, the Central Council for Education issued a report entitled "Toward a Qualitative Transformation of University Education to Build a New Future: Toward Universities that Foster Lifelong Learning and the Ability to Think Independently. This report indicated the necessity of shifting from the traditional knowledge-transfer teaching style to active learning.

In line with this trend, the authors proposed a new curriculum for introductory programming that incorporates PBL at the introductory programming level to develop human resources who can work better in the information society of the future.

The authors believe that in higher education, students need to learn the basic knowledge of programming and utilize the knowledge they have learned, taking into consideration the continuity from primary and secondary education and the connection to society. One way to deal with this is education that includes practicing software development projects in teams, which is not covered in primary and secondary education.

There are no examples of traditional introductory programming courses that cover software development. Courses that focus on software development assume that students have already completed introductory programming, so it has been given up as impossible to include both in one course.

In our proposal, the authors have shown that using drawing materials makes it possible to understand the principles of programming and acquire knowledge of software development projects in two credits of 15 90-minute sessions. This could be achieved by creatively using the drawing materials.

The first half of the curriculum consists of six sessions, each aimed at acquiring programming knowledge individually. The second half of the curriculum consists of nine sessions, in which a team of four students works on a project. Using the knowledge learned in the first half, students will follow the process of software development. Since it is difficult for a beginner to develop software, the authors simulated a picture as software. Using shapes such as circles, triangles, and squares, students think about constructing the picture they want to draw. They divide the picture into objects, divide them, and integrate them to complete the picture. By

thinking about data structures and writing programs, students deepen their understanding of software development projects.

A follow-up survey after the class showed that the proposed curriculum was influential for writing programs and acquiring knowledge and competencies for working in the digital society. Although a full-fledged follow-up survey will be conducted shortly, the authors have found that the basic knowledge has broadened their interest in computers and helped them in their post-employment activities.

The authors want to continue our research to see how digital trust is affected by our proposed programming curriculum.

Keywords: Programming Education, Project-based Learning (PBL), Basic Education

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Decolonizing Digital Trust Framework: Towards Building an Inclusive, Sustainable and Digital Trustworthy Filipino Society

Serrano, J.V.[19], Marasigan, S.B.[20] & Belegal, J.A.C.[21]

ABSTRACT

The past decade has witnessed the rapid advancements in digital platforms, tools and technology. Even before the COVID-19 pandemic, there has been a steady increase in the use of digital technology not just in the business sector but even in the education sector. The COVID-19 has accelerated the use of digital technology as businesses, academic institutions, government agencies, non-government organizations and other types of organizations were forced to adapt online and digital transactions in order to survive. The COVID-19 pandemic has affected services and operations of various institutions globally since last year. With these emerging and rapid innovations, it affects how users adapt to and trust these changes. As the world turns digital, there is a need to look into user privacy, protection, and trust. Users of any tool or platform should know how and when to use it; and what and how their data are collected and used in these digital spaces. Digital trust has become one of the major factors modern organizations should consider (Abraham et al. 2019; Pietrzak & Takala, 2021). It has been analyzed in many settings and contexts such as education, organizations, social platforms, and consumer services (Avila, 2020; Marcial & Launer, 2019; Connolly, 2020; Fernandez et al. 2018). Among the academic studies of digital trust, there is no single, common definition of digital trust. For the purposes of this study, we adapt this particular definition of digital trust of Pietrzak and Takala (2021): “measure of confidence which workers, consumers/buyers, partners and other stakeholders have in the ability of an organisation to protect data and the privacy of individuals.”

Drivers and frameworks of digital trust have also been analyzed in various contexts and settings (KPMG, 2015; Marcial & Launer, 2019; Cardoso & Gomes, 2014; Giustiniano, 2021; Brewer et al. 2021; Durresi, 2012; Jasiulewicz et al. 2022; Wang et al. 2019). Common drivers of digital trust identified are safety, security, reliability, privacy, data ethics, credibility, and transparency (KPMG, 2015). Marcial and Launer (2019) have also developed a framework for digital trust in the workplace, which identified demographic profiles, technologic profiles, employment background, technology integration, decision-making skills, and personality type as factors affecting digital trust. These existing drivers and frameworks of digital trust are dominantly centralized on western perspectives and settings. Western-centric worldviews continue to dominate the use of technology, the format of digital content, the language used , the structure of preserving digital artefacts, and the nature of technology-mediated interaction and how these have become the accepted norm and taken for granted day-to-day reality. A framework specific to the Global South contexts, particularly developing countries such as the Philippines, with limited and/or lagging digital access and availability, is yet to be established. Therefore, this

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study aims to decolonize digital trust frameworks and to fill this gap in literature. Specifically, this study will focus on the Philippines.

Digital trust research studies in the Philippines have analyzed e-government services (Chen et al. 2015; Capistrano, 2020), mobile banking (Chiu et al 2016; Chiu et al. 2017), and other e-services (Lim, 2013; Fernandez et al. 2018). Common observations among these studies are the apprehensions and reluctance of using digital tools and services prior to actual usage, and favorable perceptions after usage. These studies could also be clustered as Philippine digital trust in e-commerce. E-commerce is an industry progressing and expanding in the country especially during the COVID-19 pandemic where employment rates have dropped and prices of basic needs are increasing. The Filipinos turned to e-commerce (online selling, online purchasing, online delivery, online institutions and other services) to make additional income, to avoid exposure from COVID-19, and to stay at home during the pandemic.

It can be assumed that Filipinos are generally trusting of technological advancements. However, when presented with new tools and platforms, knowledge and preparations are needed. Digital trust among Filipinos may have also been affected by access, availability (of gadgets, infrastructures), digital literacy, information literacy, and media literacy. Connected to digital trust is a general concern on security and privacy, wherein common incidents in Philippine digital spaces are hackings, scams, and phishing schemes.

Overall, the goal of this study is to contribute to the decolonization of the digital trust framework by developing a digital framework from the context of Philippine settings.

The specific objectives of this study were to:

1) determine components of digital trust frameworks;
2) review existing literature on digital trust frameworks;
3) review existing literature on digital trust in the Philippines; and
4) develop a digital trust framework in the Philippine setting.

The results of this study can be utilized in educational or learning community settings, and can be further contextualized into specific cultures and groups such as indigenous peoples in the Philippines.

This study employed review of published literature on digital trust from online databases. Citation snowballing was also employed to include other peer-reviewed and grey literature published by Filipino authors. Thematic analysis was done wherein themes that emerged were the basis for the digital trust framework.

Keywords: digital trust, trust framework, trust, Philippines, decolonization

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Deconstructing Digital Trust: Possibilities of Post-i4.0

Arindam Das[22]

ABSTRACT

'Digital Trust' in its very nomenclature and nature combines the diametrical opposites. 'Digital Trust' is an oxymoronic state that leads to a collapse-commune between the digital and the human, hence, a hybrid, posthuman condition (Das 2021). Such hybridity involves an admixture of opposed, antipodal elements (machine/man) and encapsulates postmodern aporia (Derrida). Such aporia indicates an unexplained, if not confused anarchic, state of ruptured technical world order. This technological world order that we hint at is that of i4.0, whose characteristics of posthuman condition have been already established (Das 2021; Das and Chanda 2021).

Any dizzy aporiatic moment deconstructs (never destroys but re-constructs) the order, structure, and logic of things by rendering them hybrid, liminal, and meaningless (due to the presence of opposed/paradoxical meaning). Similarly, 'Digital Trust' is also no less appropriative and subversive of the standard, accepted rationales. Deconstructing digital trust as a postmodern and hybrid condition leads to the appropriation of both the logic of technological superiority (digital or AI logics, as professed in i4.0) and the ontology of human ethics. This theoretical paper intends to develop on how 'Digital Trust' evolves as a postmodern culture that deconstructs the hegemony of digital technology on one hand and the logic of human trust on the other, and hence generates a post-i4.0 condition.

Deconstruction as a postmodern tool to understand i4.0

Emovwodo, et al. (2020) in their current research had equated the condition of i4.0 to that of a postmodernist state that intends to use "technology to disruptively challenge traditional institutions, distinctions, and hierarchies; acknowledge polyculturalism and the popular; and celebrate differences" (Emovwodo, et al. 2020, n.pg.). However, such postmodern condition of i4.0 is observed not only in its anarchic potency that disrupts antidemocratic distinctions and celebrates differences (here that between the digital and the human), but also in its 'liquid' condition that disrupts the very basis of human 'trust.' Unlike a solid trust, liquid digital trust (Bauman as rethought in Svenson, et al. 2020) is "ephemeral, access-based, and dematerialized" and this leads to an unstable, short-lived, and technologically ordained relationship between the trustor (human employees/i4.0) and the trustee (i4.0/human employee) (Svenson 2020). As such, where 'Digital Trust' should have generated an unfailing system between the machine and man around security, privacy, reliability, data ethics is breached. Employee privacies in i4.0 are infringed. 'Digital Trust' further leads to data surveillance (breaching the private and the public spaces of an employee) and data over-interpretation and data over-reliance (AI-generated decision-taking). The inescapability of algorithmic AI by employees Hence, 'Digital Trust' leads to 'Digital Distrust'—a response to the unethical design of i4.0 (Svenson et al. 2020). The postmodern condition of i4.0 that straddles the digital and the physical, promising to give overreliance to none (for postmodernism dissolves hierarchies), brings in its wake the 'Digital (dis)Trust.' One is here reminded that

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postmodernism is a socio-cultural condition that extends and critiques the modern condition, rather than an anti-movement to the latter. Thus, in a postmodern condition, the traces or shadows of modernity is to be found while still subverting the elements of modernity. Finally, while understanding i4.0, and the associated 'Digital Trust,' through a deconstructive-postmodern lens, one may assume that there will be the following:

i. Digital Distrust in Digital Trust
ii. Hierarchically designed positions (man-AI) in hierarchy-lessness

Digital (Dis)Trust and i4.0

Understanding of trust and the values around the digital of i4.0 is analyzed through various epistemic lenses, viz., psychological (Clément 2020), organizational (Svenson et al., 2020), philosophical (Simon, 2020), sociological (Lewis 1985), technological (Taddeo 2010), digital (Svenson, et al., 2020), and from the perspectives of economics (Arai 2007), jurisprudence (Colquitt, J.A., and J.B. Rodell 2011) and power discourses (Candlin and Crichton 2013). Yet, what remains common is that trust is a relative concept that depends on the communicational relationship of two entities. As such, the trust may be interpersonal, institutional/organizational, and societal/cultural. Any desire for development in the communicational trust should emphasize open, positive, mutually respectful, responsive, responsible, and ethical relationships between two or more persons, institutions, or cultures/societies (Simon 2020). The relation between the trustor and trustee in the discourse or process of trust is a matter of “ongoing social-relationship” amidst a warm and positive atmosphere (Cook, et al. 2005). In the case of i4.0, such an uninsulated open relationship between the trustor and the trustee is thwarted. The man/machine dichotomy-dissolution in a posthuman, postmodern scenario releases an unease unto the concept of digital trust. For organizational and technological researchers, ‘Digital Trust,’ is a matter of an unbreachable and extra-reliant digital entity. However, as i4.0 is a postmodern-posthuman condition, no hierarchical difference between man and technology is possible. Hence arises the ‘other’ of the digital trust, the digital distrust of man about the digital. Overreliance on the analytical and conditioning superiority of the digital in the i4.0 has made human employees suspicious and critical of the same.

Man-Digital hierarchy/lessness in i4.0

Any structuralist system posits the concept of binary opposite that is hierarchically designed to generate a standard meaning within a coherent, changeless system. However, poststructuralism does not intend to reverse the hierarchies of binaries but rather dissolve them to generate a multiplicity of conflictual meanings. i4.0 is a system that is posthuman and thereby postmodern (Das 2021) in nature, whereby the man-machine structuralist binaries and hierarchies are meant to be dissolved and a liminal state of human-robot autonomy created. The IoT, robotization, digitization, AI, and big data promise to create a posthuman ecology within i4.0 where human autonomous agency and their cognitive superiority are thwarted by augmented software. The robotic Übermensch (Nietzche), an interlogical creation between man and machine intends to usher in a new collaborative future of mutual creation, identity, and trust. Yet, the posthuman, technobiological, anthropomorphic conditions of i4.0 fail to create the postmodern conditions of ‘Digital Trust ‘that give equal

importance to instinctual (human) and analytical (digital) perspectives of trust. The man-machine hierarchies herewith thought to have been dissolved take a heavier tilt towards the digital. The anthropomorphic conditions of the management system, production process, and production agents that were thought to have relied on a system of hybrid, posthuman 'Digital Trust' give way to the technological at the cost of human/intuitive trust. With the hegemonic singularity of the technological trustee growing (a systematic extraction, collection, analysis, allocation, control, surveillance, and management of human data), the human trustors are not convinced about ethical-emotional management of the self by the technological other.

What follows is the resistance to the 'Digital Trust' of i4.0 by human agents. The 'right to privacy'—Warren and Brandeis' "the right to be let alone" (1890, 93-220) invoked to control the unbridled algorithmic decision making by robotic agents of i4.0. The European General Data Protection Regulation (GDPR), 2018, admits human intervention (human employees with the right to challenge the data-driven decisions) in digital decision making, thus breaching the trust herewith thought to be foolproof. Further, the International Labour Organization's (ILO) in Global Commission on the Future of Work report (2019) brings back the importance of anthropocentric trust and reverses the machine-man hierarchy. The "Technology for Decent Work" section of the report affirms,

We also subscribe to a "human-in-command" approach to artificial intelligence that ensures that the final decisions affecting work are taken by human beings, not algorithms. The exercise of algorithmic management, surveillance and control, through sensors, wearables and other forms of monitoring, needs to be regulated to protect the dignity of workers. Labour is not a commodity; nor is it a robot. (ILO 2019, 43)

This attempt to re-centralize the man in the man-machine communicational relationship of trust in i4.0 is to bring back the anthropocentric structure of trust and dissolve the poststructuralist position of future AI-driven (but not AI-centric) industries.

Prospects of Post-i4.0

The transition of the man-machine relationship from an anthropocentric world to the Future 4.0 / i4.0 may be documented thus:

Man

[based on control philosophy]

Machine

[Stage 1: Anthropocentric: Man controlling Machine; importance of human intuition-based trust on decision making; practical industrial world scenario]

Man

[based on mutual dialogue]

Machine

[Stage 2: Anthropomorphic: Man-Machine power hierarchy dissolved; importance on man-machine hierarchiless or intuition-AI trust on decision making; theoretical i4.0 scenario]

Man

[based on controlled dialogue]

Machine

[Stage 3: Post-anthropomorphic: Man controls the machine in a digitized world or anthropocentric trust in a digicentric system; futuristic post-i4.0 scenario]

Future 4.0 or Post-i4.0 is not an anti-anthropomorphic organizational system that reverses the liminal poststructuralist "Digital Trust" by revoking anthropocentric structuralist human-centric trust. Such a condition would have been regressive at the dismissal of the big-data progress of the world. There is no escape from the continuous digital disruption. However, bringing back humanism to reshape the posthuman futures of i4.0 is the only possible prospect to reclaim ethics, sensible decision taking, and non-misplaced intuitive trust in an organization. Such a condition (Future4.0 or Post-i4.0) thus is a dialogic one, where the reins of ethical control stay with the man. The "Post-digital Trust" thus generated is open for humanist-intuitive decision-taking based on the digitally-trusted propositions of i4.0.

Conclusion

In this paper, I intended to theorize about the futures of 'Digital Trust' in the futuristic i4.0. I adopted the cultural deconstruction theory of Jacques Derrida (1967) to unsettle the hegemony of 'Digital Trust' in a posthuman organizational condition. I show how i4.0, a posthuman anthropomorphic condition, slowly tends to digital hegemony, and the trust thereby generated is no less overpoweringly controlling over human subjects/employees. It opens up an aporiatic space for me to critique the condition and find a solution in the post-i4.0 situation and generates a 'Post-digital Trust'—a human-centric trust amidst a machine-centric world.

Keywords: Digital Trust, i4.0, poststructuralism, deconstruction

Trust in mobile Banking in Polish Society - Results of Pilot Studies

Piotr Pietrzak[23] & Katarzyna Łukasiewicz[24]

ABSTRACT

The widespread use of smartphones all over the world has led more consumers to conduct financial transactions and other banking activities on their mobile devices. However, one of the most commonly cited reasons why people don't use mobile banking is lack of trust. Therefore, this issue should be the subject of both theoretical and practical research. This study examines different types of trust (knowledge-incurred trust, calculative-incurred trust, cognition-incurred trust, personality-incurred trust, and institution-incurred trust) on mobile banking services usage. The following methods were used to obtain research material and present the obtained findings: literature studies, diagnostic survey (with the use of the CAWI technique), descriptive, tabular and graphic. The main conclusion of the research indicates, on average, institutional trust has the highest importance in the development of mobile banking. This suggests that banks can take actions such as developing internal policies, rules and regulations to protect mobile solutions that will have a positive impact on customer confidence. Due to the fact that the conducted research was a pilot study (the research sample consisted of 152 people), there is a need to continue it. In this regard, international comparisons are also worth considering.

Keywords: trust, retail bank, mobile phone, mobile banking.

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Trust and the use of online Services

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ABSTRACT

Considering the potential of new digital technologies and their importance especially at the time of COVID-19 (https://www.cnbc.com/. Download: 16.09.2020), the authors recognized the role of building trust in the online services offered by different organizations and companies and in data security.

Online trust, can be defined as the expectation that in a risky situation on the Internet our vulnerabilities will not be exploited [Garnik, 2002, p. 34]. In particular, online trust is based on experiences and emotions accompanied by uncertainty and risk. Online trust is the customer's dependence on the online retailer, which is characterised by openness and submissiveness towards its customer [Grudzewski et al., 2009, p. 129]. Online trust is very important because it helps overcome consumers' perceived risks and uncertainties and helps them engage in online activity behaviours, i.e.: sharing personal information, making purchases, using e-services [Ruparelia et al., 2018, p. 250]. Online trust plays a key role in creating satisfying and expected outcomes in online transactions, where trust increases consumers' belief in e-tailers [Yu-Hui and Barnes, 2007, p. 22].

The aim of the study was to determine the relationship between trust, including online trust, and the propensity to use online services among first-year students at SGGW. The following research questions were posed for such a formulated objective:

1.What online services do students use?
2. How often do students use online services?
3. What is the level of trust in selected online services?

An online survey was used to collect data. The survey questionnaire was prepared in an electronic form in the Forms application. Respondents could fill in the questionnaire by directly clicking on the link. The selection of the research sample was purposeful. It consisted in indicating the population units that should be included in the sample [Miszczak, Walasek, 2013, p. 103]. Students participating in the study had to meet the following three criteria: have access to the Internet; use the Internet; and have student status.

The survey questionnaire consisted of 6 general questions and 6 metric questions regarding demographic characteristics. General questions included frequency of Internet use, and trust in the Internet. One of the most important issues included in the questionnaire was the level of trust in Internet services.

The study involved 312 students of first degree studies, majoring in economics, tourism and recreation, as shown in Table 1. Most of them were female students (68.6%), on full-time studies (about 97%), aged 18-20

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years (about 70%), residing in major cities over 250 thousand residents (about 43%) or village (about 31%). More than half of the respondents did not work (table 1).

Table 1. Characteristics of the student population [N=312]

Studies	N	%
first degree studies	312	100
stationary / full-time	302	96,8
non-stationary / part-time	10	3,2
Age (years)	N	%
18-20	217	69,55
20-22	82	26,28
23-25	13	4,17
Gender	N	%
Woman	214	68,6
Man	98	31,4
Place of residence	N	%
Village	98	31,41
City up to 50,000 residents	62	19,87
City up to 100,000 residents	13	4,17
City up to 250,000 residents	3	0,96
City over 250,000 residents	133	42,63
Professional status	N	%
Unemployed	213	68,27
full-time work	41	13,14
self-employed	32	10,26
part-time work/contract work	16	5,13
work and study	4	1,28
Study	2	0,64

Source: own research

A vast majority of the surveyed respondents most frequently used (had active accounts) the Facebook Internet platform (ca. 99%). In second place was YouTube (approx. 9.71%), and in third place was Gmail (86.5%). Other online service providers that were used by about a third of the respondents were WhatsApp (39.1%), and Twitter (33.33%). More than 16.3% of respondents used Instagram. The other online service providers, i.e. Snapchat, Linkedin, TikTok, and Website gained a few percentages. Only a few respondents had active accounts with Alipay, WeChat, Reddit, Signal, Amazon. It is noteworthy that among the students surveyed

none had an active email account on email providers: Interia, Onet, Yahoo, wp.pl, OK or VK and others email providers.

However, the primary purpose of the study was to determine the level of trust in the online services available in the student community. Twenty online services were assessed for their level of digital trust on a 4-point Likert scale ranging from 1 (no trust) to 4 (high trust), as shown in Table 2.

Table 2 The level of trust in online service providers [in %; N=312]

Online service providers	High + Medium trust [%]	Low + No trust [%]
Booking tickets	97,1	2,9
Searching for products for to buy	95,2	4,8
Booking accommodation	94,6	5,4
Price comparison	94,6	5,4
Checking bank account balance	94,2	5,8
Using video services	92,9	7,1
Buying products/services	92,6	7,4
Booking a doctor's appointment	91,7	8,3
Use of e-learning	91,7	8,3
Use of e-library	90,4	9,6
Paying bills	90,1	10,2
Applying for ID/passport	90,1	9,9
Virtual tours of museums, cities, etc.	89,4	10,6
Bank payments	89,1	10,9
Job search	88,5	11,5
Reading blogs	84	16
Vending machines and site locators	82,4	17,6
Reading e-papers	82,4	17,6
Filing tax returns	77,9	22,1
Using auction services	71,8	28,2

4-point Likert scale ranging: 1 - no trust, 2 – low trust, 3- medium trust and 4 - high trust.

Source: own research

The surveyed students have a relatively high trust in online service providers. The students have the bigest trust to: booking tickets online (ca. 97%), searching for products for to buy, booking accommodation and price comparison of products or to services (ca. 95%), checking bank account balance (94%). They also have

high confidence in: using video services, buying products/services, booking a doctor's appointment, use of e-learning and e-library, paying bills and applying for ID or Passport (table 2).
They have lowest trust in: using auction services and online filing of tax returns (at over 70%), and also: reading blogs or e-papers, used vending machines, site locators or job search.

Conclusions:

Progressing digitalization stimulates changes in many areas of the economy, including the service sector and customer behavioral changes. The results shows that a vast majority of the students, most frequently used: Facebook, YouTube, Gmail. Others: WhatsApp, Twitter, Instagram or Snapchat, Linkedin & TikTok. The students have the bigest trust to: booking tickets online, searching for products for to buy, booking accommodation, price comparison of products or to services, checking bank account balance, buying products/services, using video services, booking a doctor's appointment, use of e-learning and e-library, paying bills and applying for ID or Passport.
They have lowest trust in: using auction services and online filing of tax returns, reading blogs and e-papers, used vending machines, site locators or job search.

Keywords: Trust, online Services, Internet, Students

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Education

Do Demographics Affect Digital Trust in Education?

Meltem Huri Baturay[27], Sacip Toker[28] & Markus Launer[29]

We are living in a dynamic digital era surrounded by digital technologies, transactions, and communication. Today human beings continuously endeavor to clutch at the innovations shaped by dazzling perpetual changes in information communication technologies to survive in their business and daily lives. In fact, the products of technology became a 'humanized' partner of everyday lives for us (Perzycka, 2014). It is no surprise that the digital spaces through which we connect, collaborate, create, consume, learn etc., that we depend on are expected to be trusted (Glazer et al., 2014). Digital technologies comprise knowledge infrastructure concerned with the network of people, artifacts, and informational resources as the more influential assets of professional and educational practices (Frolova, Rogach & Ryabova, 2020). Besides, both people who take roles in ICT transactions and the transparency of these transactions have a crucial role in establishing or building trust (Marcial & Launer, 2019). Whether the individuals and parties are worthy of trust could only be determined by the actions and transactions among them. The transparency is significant in the social context of business within which all stakeholders feel safe. If people do not feel that the others will work towards the benefit of them, they with high probability will not take the risk of cooperation (Levine, 2019).

As the widely accepted definition in the literature states "Trust is a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behavior or another" (Rousseau et al. 1998, p. 395). In another definition trust is defined as an individual's readiness to be vulnerable to action of others due to the belief that they have good intentions and they will treat well accordingly (Sucher & Gupta, 2019). Jelovac, Ljubojevic and Ljubojevic (2021) uttered that trust has four dimensions as physical, emotional, financial and digital.

Digital trust, on the other hand, refers to the "level of confidence in people, process and technology" for the aim of building up a secure digital world (Marcial & Launer, 2019, p.1). Similar to this definition, Orekhova (2020) associated digital trust with all components of digital interaction as users, processes, devices, technologies and suppliers. The concept is essentially concerned with the trust in digital environments be it an institution, technology or a process (Jelovac, Ljubojevic & Ljubojevic, 2021). The four pillars of digital trust are also stated as transparency and availability; ethics and responsibility for the dark sides of technologies; privacy and control and security and reliability (Albinson et al., 2019). Whereas technology itself or the technological precautions taken alone cannot ensure digital trust (Jelovac, Ljubojevic & Ljubojevic, 2021). Since there needs to be a strategy, policy, principles, a management model and effective leadership implemented for the

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provision of digital trust (Albinson et al., 2019) which may be the reason of why digital trust may be affected but not be controlled (Jelovac, Ljubojevic and Ljubojevic, 2021).

Strong digital trust is beneficial to attract and keep consumers; offer new and qualified products and services (Jelovac, Ljubojevic & Ljubojevic, 2021). Whereas, lack of trust is defined as a risk, 'uncertainty associated with a significant loss' in the forms of financial, social or personal by Levine (2019) in the business context. Thinking of educational context, this loss may be concerned with broken or lack of interaction and communication; demotivation of stakeholders (be students, teachers and administrators); unsuccessfulness of students and a decrease in the quality of education. If there is high risk in digital communities, there is increased uncertainty that individuals will not feel safe just as if they were on a slippery ground and they will most probably require greater trust (Levine, 2019).

Digital trust is fundamentally stated as a prerequisite for every decision-making in the workplace, which would probably not change for educational settings (Marcial & Launer, 2019). The Internet has revolutionized the educational arena with the provision of technological tools to support and enrich teaching and learning and with its enabling of online and blended learning models. Particularly, in the last decades, the classroom teaching expanded beyond school walls. This brought along potential risks thinking of trust and made it fragile more than ever (Glazer et al., 2014). With the pandemic era all educational activities moved to online settings, which doubled, tripled these risks.

Digital trust in education is stated to be ensured by the procurement of copyright for educational materials and by building up of teacher's confidence in the usefulness and reliability of digital services. The feeling of distrust may be prevented by enabling predictability of individuals' actions in an e-educational context and by understanding the basics of digitalization (Frolova, Rogach & Ryabova, 2020). But are these sufficient to build up trust and keep it continuous? Also teachers are stated to have less trust in digital tools used for the aim of education compared to their students (Perzycka, 2014) which should be further studied. There may be some other parameters affecting people's digital trust in an educational setting with respect to all stakeholders which should be further analysed.

As the literature indicates, development of digital trust is stated to be one of the problems insufficiently studied (Frolova, Rogach & Ryabova, 2020). Particularly, there are very few articles on the digital trust in education. In the current study, as the beginning of forthcoming studies in mind, the effect of demographics such as age, gender, civic status, academic degrees and the country and city they live with respect to participants' digital trust in was descriptively analysed. There were around 900 participants from different countries in the study. The results indicated that there was a significant impact of age on all components of digital trust. Similarly, there was a significant impact of gender on all components of digital trust. There was a significant difference between the civic status of participants in terms of all components of digital trust. There was no significant difference between the academic degrees of participants in terms of all components of digital trust. The countries significantly differentiated in terms of all components of digital trust. The city where participants currently live also had a significant impact on all components of digital trust.

Keywords: Digital Trust, Digitalization, Education

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Digital Literacy of Youths in the Socio-Ecological Production Landscapes and Seascapes of the Philippines

Quimbo, M.A.T.[30], Serrano, J.V.[31], De los Santos, S.G.G.[32], Belegal, J.A.C.[33] & Alazada, N.D.S.[34]

ABSTRACT

The natural environment and societal developments have seen drastic changes over the years, which negatively affected ecosystems and contributed to climate change. It has been a challenge to balance environment and development, without impeding advances of either. The University of the Philippines Open University (UPOU), in partnership with the UP Los Baños, launched a two-year program to address this challenge. The program, "Blending of Multimedia Approach and Satoyama-Satoumi Principles for Building Climate Smart Communities" or bSMART, sets out to collect and analyze information on the biological, environmental, and cultural components of the targeted upland and coastal communities. The program also supports four Sustainable Development Goals (SDG) namely: SDG 4 (Quality Education), SDG 13 (Climate Action), SDG 14 (Life Below Water), and SDG 15 (Life On Land).

Utilizing satoyama-satoumi principles, collected data of the program will be used to surface out connections and relationships essential to the promotion of socio-ecological production landscapes and seascapes (SEPLS) conservation initiatives. In particular, this study focuses on one project component of the bSMART program which aims to capacitate individuals, communities, and local government units on satoyama-satoumi principles and practices using multimedia materials and open online courses (OOCs).

Satoyama and *satoumi* are Japanese terms for secondary woodlands adjacent to rural settlements, and coastal areas sustainably managed by fishing communities, respectively (Gu & Subramanian, 2014). On the other hand, SEPLS is the English counterpart of these Japanese terms. SEPLS was coined by the Japan Satoyama Satoumi Assessment (JSSA) to describe dynamic systems that reflect human-nature interactions compatible with maintenance, resource generation, conservation and sustainable use (Centre pour l'Environnement et le Développement [CED] et al. 2010). One way of promoting these terms is through multimedia materials and OOCs.

With recent advancements in technology and digitally-aided education, especially during the COVID-19 pandemic, there has been widespread adoption and use of digital technologies (De et al. 2020). Although digital technology is widespread, there will still be groups or communities who are unable to access, utilize or adapt to it (Kusumastuti & Nuryani, 2019). This is common among rural communities where digital resources are either scarce or falling behind. This inability can be attributed to several factors such as the availability of resources (e.g., internet connectivity and gadgets) and digital literacy.

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The Philippines is among Asian countries with the most number of internet users, at 73% of the population in 2020 and forecasted at 74% in 2021 (Statista Research Department, 2021a). Internet users in the country have been rapidly increasing in recent years. The most recent survey (2019) on internet usage in the Philippines indicates that usage was higher in urban areas, and among younger and more educated Filipinos (Social Weather Stations, 2020). On the other hand, mobile or smartphones are the most common and available gadgets in the country (Salac & Kim, 2016). In 2020, there were approximately 79 million mobile phone users in the Philippines, and a forecasted 82 million users in 2021 (Statista Research Department, 2021b).

Over the years, digital literacy has been analyzed in abundant academic studies (Blummer, 2008; Kusumastuti & Nuryani, 2019; Mensah, 2021; Leaning, 2019; Mentari & Puspitasari, 2021; Meyers et al. 2013; Pangrazio & Sefton-Green, 2021; Papaioannou, 2011; Park et al. 2021; Radovanovic et al. 2020; Reddy et al. 2020). In the Philippines, there is a number of research on digital literacy and relevant concepts of information literacy, digital access, digital equity, etc. (Buot et al. 2017; Salac & Kim 2016; Roberts & Hernandez, 2019; Avila, 2020). Among these studies, digital literacy has various definitions, attributed to the contexts and settings wherein it was used. For this study, we will adopt a relevant definition. Reddy and colleagues define digital literacy as “an individual’s ability to find and evaluate information, use this information effectively, create new content using this information, and share and communicate this newly created information using appropriate digital technologies” (Reddy et al. 2020, p. 83).

Digital technologies are more commonly adapted among younger populations as they are the “digital native generation” (Mentari & Puspitasari, 2021). The availability of existing and new digital technologies equip and inform the youth with a set of solutions that will help them tackle problems related to climate change and SEPLS promotion. Research on digital literacy among youths residing in SEPLS, which are commonly found in rural communities, are yet to be conducted. With this gap, this study makes several contributions. First, it contributes to the literature on digital literacy in the Philippines and in SEPLS. Second, this study may be the first in terms of research to assess digital literacy among youths in SEPLS. Therefore, this study aims to assess and analyze the digital literacy of youths in selected SEPLS in the Philippines, and to discuss its implications on the promotion, conservation, and management of SEPLS.

The study will employ a quantitative research design and will determine the following: level of proficiency, frequency of use, digital skills, and social networking site usage. Study participants will be youths aged 15 to 24 years old residing in the program sites. This is consistent with the United Nations’ description of youths which specifies this age group “in the context of preparations for the International Youth Year (1985)” (United Nations, n.d.). At least 70 participants will be purposively selected from each research site, namely, Barangay Lidong in Santo Domingo, Albay; Barangay Danao and Barangay Naungan in Ormoc City, Leyte; and Barangay Masao and Barangay Tungao in Butuan City, Agusan del Norte. Data will be collected via surveys administered by project Field Assistants through an application called Landscape Connect. The Landscape Connect application was developed by Lancaster University (LU) in the United Kingdom. The study can access and utilize this application through a partnership with one of LU’s professors.

Study results (participant demographics, digital literacy assessment) will be analyzed independently per site using descriptive statistics (mean, mode, range, frequency). Comparative analysis will also be done to allow for a deeper understanding of the needs and conditions of the study participants. The results and analyses from this study will provide appropriate contexts and direction for the development of the project's multimedia materials and OOCs. Some policy recommendations will also be drawn out that could help policymakers recognize the potential of digital media as a tool for conservation projects targeting the youth. The results of the study could also serve as a reference for future research focusing on digital literacy among the youth.

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Keywords: youth, digital literacy, sustainability literacy, socio-ecological production landscapes and seascapes, SEPLS, Philippines

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Do you Trust Open Educational Resources? A Review of Quality Assurance Framework

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ABSTRACT

Open Educational Resources (OER) "are teaching, learning and research materials in any medium – digital or otherwise – that reside in the public domain or have been released under an open license that permits no-cost access, use, adaptation and redistribution by others with no or limited restrictions" (UNESCO n.d.). The adaption and use of OER have been tremendously applaudable because of its benefits to both teachers and students. OERs are educational materials produced and openly shared by educators from different parts of the world for other educators to reuse, retain, remix, revise, and redistribute (5Rs). Since it is open and can be edited, the question of quality has been raised. The trust in the quality of the learning content, repository, and technology used was in doubt. The study aims to review the related literature of various quality assurance frameworks used by different OER initiatives. It primarily focused on the quality assurance of OER in terms of learning content, storage, and learning analytics used. It also aims to support UNESCO's call for knowledge sharing through OER during this pandemic, which stated: "effective, inclusive and equitable access to quality OER" (Chakchouk & Giannini, n.d.).

The current study follows the steps as recommended by Kitchenham (2004) as cited by Clements, Pawlowski, & Manouselis (2015) in conducting systematic reviews, as follows "(1) identify need and define the method, (2) create research question(s), (3) conduct the search for relevant literature, (4) assess the quality and appropriateness of the studies, (5) extract data from the studies, (6) conduct data synthesis and finally (7) interpret the results and write a report." According to Albeanu & Posdarascu (2017), evaluating the quality of OER is more challenging because of its nature of openness and the "5Rs" attributes. Openness means the educational resources is not cover with copyright law because it is either under public domain or open license. Resources under the public domain consider owned by the public. On the other hand, an open license is what Creative Commons supported with their six open licenses that a creator can choose from for their work. Marín, Orellana, & Peré (2019) concluded that an appropriate evaluation approach must be implemented to ensure quality OER content. They found that Learning Object Review Instrument (LORI) is the proper evaluation instrument to determine quality resources for teaching and learning. Gordillo, López-Fernández & Verbert (2020) agreed that using LORI in evaluating the traditional OER content-based recommender can ensure pedagogical quality resources that can improve conventional content-based OER recommender systems. It allows recommending OER with more quality and relevance for the users. Thus, it concluded that OER repositories could use quality measures to ensure that the system can recommend comprehensive quality content to the users. More so, Bodily, Nyland, & Wiley (2017) suggested the Resource Inspection, Selection, and Enhancement (RISE) Framework, which is an automated process of identifying content that needs to be eliminated or improved.

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The content is assumed to be aligned with the learning outcomes set by the faculty. As soon as the system receives the course content, it will automatically give the list to an instructional designer who will modify or adapt the need to improve course content and make it available in the repository for the following semester. The available modified course content will then be monitored, and student feedback or evaluation will be asked. Learning analytics was also used in the study of Avila et al. (2020) to support teachers in creating and evaluating OERs, ensuring quality resources are being used and adapted for their classes. Atenas & Havemann (2014) identified the ten quality indicators to ensure that the repository is sustainable, flexible, and user-friendly. Moreso, Clements, et al. (2015) advised the developer of repositories to look at it in a holistic approach. Such as the policy, content, format, and instrument used for evaluation to develop a cost-efficient and sustainable quality assurance process. There are various factors to consider in making an OER sustainable, aside from enduring its quality. Institutionalizing the operation of the OER repository, then policy, structure, and process must also be in place. Abeywardena (2017) suggested a checklist to ensure cooperation and mainstream of activities for OER initiative in every institution, making an OER project sustainable, accessible, and quality-driven.

Keywords: Open Educational Resources, Open Educational Resources – Quality Assurance Framework, Open Educational Resources – Digital Trust

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E-Service Learning: Sustaining Public Service in Higher Education during COVID-19 Pandemic

Aurelio P. Vilbar[37]

ABSTRACT

The University of the Philippines Cebu (UPC) Master of Education-English as a Second Language (MEd) Program has been conducting public service to its underserved partner communities such as the Department of Education in Olango Island in Cebu, Philippines. It has been providing free teacher training services on conducting action research to the Department of Education (DepEd) high school teachers in the island since 2018.

However, due to emergency health crisis caused by COVID-19 virus, the Philippine government advised all schools and universities to shift into remote learning modality since the academic year 2020-2021 to avoid virus transmission (CHED, 2020); (Bautista, 2020). This remote learning policy and community lockdowns inspired this paper to conduct an online public service called e-Service Learning (e-SL) to continue teacher training in the island community despite the pandemic.

This exploratory research examined the usefulness of integrating e-SL in teaching the graduate course, "Production/Adaptation of Materials in a Bilingual Context" in an online remote learning context during the pandemic. In e-SL, my 15 graduate students served as online volunteer coaches to the Olango Island teachers on conducting their action research on reading and mathematics remedial program. The alternative course summative evaluation of my students was to help the teachers in the design, development, production, and initial implementation of their remedial materials. e-SL is a course-related service activity conducted by my students that met the needs of the Olango Island community (Bringle & Hatcher, 1995)m which was mediated by technology and is delivered online (Malvey, Hamby, & Fottler, 2006).

This paper aimed to determine the (1) impact of using e-Service Learning on the graduate students' course content, personal growth, and civic engagement and (2) the impact on the public-school teachers' knowledge and skills in conducting action research on remedial programs. It employed the exploratory design in social sciences research (Mason, Augustyn, & Seakhoa-King, 2010) which used various data gathering-procedures to address the new phenomenon of conducting e-SL during the pandemic. It used anonymous online surveys, online reflections, online semi-structured interviews, and online focus group discussions (FGD) to determine the impact of e-SL for both participants: the service learners (graduate students) and the community served.

Anchored on the IPARD Design in conducting service learning (Root, 2017), the research underwent the following stages: Investigation. In this stage, Needs Assessment was conducted among the 12 public school teachers and the School Principal. Results showed that the teachers had background knowledge in research but had no experience in conducting one. Since the e-SL was conducted fully online, the teachers were required to have a computer and an internet connection. In the Planning Stage, I integrated e-SL in my

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“Production of Materials” syllabus which had the course outcome to produce instructional materials. All my 15 MEd students gave their consent to be the respondent-volunteer coaches (service learners).

In the Action Stage, the online coaching was done during my Saturday online classes and outside the regular classes depending upon the agreement of the volunteers and public-school teachers. It was conducted via telecollaboration platforms Zoom, Google Meets, and Facebook Messenger. My graduate students were grouped into four and helped the public-school teachers’ research topics: (1) Using Game-Based Remedial Programs for Reading Comprehension (2) Blended Reading for Reading Comprehension, (3) Storybooks to Develop Reading Comprehension, and (4) Using Translanguaging in Teacher-Made Math Video Tutorials. They coached them in making original reading texts or videos, exercises, assessment, and layout from August 2021 to September 2021. The reading and viewing remedial materials become the final assessment of my students.

To promote quality assurance, the remedial lessons underwent peer evaluation by three external evaluators. All lessons received a “Passed” rating in terms of content, presentation, accuracy, and instructional quality. The evaluators also provided constructive criticisms on how to improve the lessons. This means that the e-SL was successful in coaching the teachers on how to create sound remedial materials for their specific users. In addition, the materials underwent face-to-face pilot testing to assess the materials’ acceptability from potential end users before the remedial program implementation and to provide empirical support regarding the experience of the end users of the proposed materials (Lin et al., 2017; Vilbar, 2021; White & Branch, 2001). The interviews and focused-group discussion yielded the following results: (1) The reading materials promoted interest and excitement due to their contextualized stories, engaging activities, and attractive colored illustrations. (2) The use of the local language math tutorial videos bridged the students’ understanding of fractions and rational numbers in the first two videos. The materials underwent another revision based on the pilot testing.

In the Reflection Stage, the reflections, interviews, and focus-group discussion were analyzed and revealed the following themes: (1). The e-SL developed the students’ course content, personal growth, public service, and reciprocity. Despite the challenges in conducting e-SL during the pandemic, the students highlighted that their learning was with a purpose which was to serve the Olango Island teachers. (2) The experience developed empathy, collaboration, public service, fulfillment. (3) The public-school teachers gained confidence and skills in conducting research. The volunteers’ dedication became their inspiration to finish their research.

Demonstration

In this stage, the teachers implemented their action research from November 2020 to February 2021. Each group used the Wilcoxon signed rank test to determine the significant difference on their students’ pretest-posttest scores. Findings from Table 1 show that the students from the Storybooks and Math videos groups had a significant difference on their pretest-posttest performance with p-values of 0.006 and 0.050 respectively while the Game-Based and Blended Reading groups did not have significant difference.

Table 1.

Pretest-posttest results of the students in the remedial programs

Groups	n	Pretest	Posttest	p-value	Remarks
Game-Based	20	2.30	2.30	0.897	Not significant
Blended Reading	15	4.00	4.00	0.480	Not significant
Storybooks	20	2.40	4.00	0.006	Significant
Math videos	20	18.90	23.10	0.050	Significant

The table and the FGD results proved that the public-school teachers demonstrated competence in conducting action research—from the conceptualization, implementation, to evaluation. The teachers' interviews showed their appreciation to their coaches who guided them.

The goal of this exploratory research was to examine the potential of using e-service learning as an alternative pedagogy in higher education during the COVID-19 pandemic and to determine its impact on the service learners and the community. The various data showed that the use of e-SL can be an effective alternative pedagogy to sustain instruction and public service without violating health protocols. From the service learners' experience, it can promote content course, personal growth, community engagement, and reciprocity even without the face-to-face interaction. Its online immersion component motivated the graduate students to learn the course content on materials production with a purpose. Their purpose was to help the community on their action research remedial program. Consequently, from the community served, the project developed the teachers' knowledge and skills in conducting action research to improve their student's reading comprehension and mathematical skills.

When e-SL is consultatively planned with the community and the service learners, it can promote reciprocity. Both the graduate students and the community understood the rationale of conducting action research which was to improve the students' academic performance. With mutual respect, both experienced mutual exchange of giving and receiving of knowledge and skills regardless of academic background and work experience. Both become co-generators of knowledge, kindness, compassion, and inspiration.

Keywords: e-Service Learning, action research, instructional materials production

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A Case Study on the Cultivation and Sustainability of Knowledge Sharing and Digital Trust: A COIL Project with Mexican and Turkish University Students

Işıl Günseli Kaçar[38]

ABSTRACT

The educational settings in the 21st century are characterized by an emphasis on the development of skills such as communication, collaboration, and critical thinking and technology integration. Telecollaboration has recently been a widely adopted educational practice where learners are engaged in developing the aforementioned skills via online intercultural interaction in collaboration with their peers on an international level under the supervision of facilitators and/or instructors as an integral part of the instruction (Lewis & O'Dowd, 2016; O'Dowd, 2016). Over the past decades, telecollaboration has been referred to as online intercultural exchange (O'Dowd, 2007) or virtual exchange (VE) (Helm, 2016).

Introduction

Collaborative Online International Learning (COIL) is a more comprehensive form of VE. According to SUNY (State University of New York) COIL Center (Rubin, 2016). COIL is considered to foster the intercultural competence development in multicultural learning environments via exchanges between the faculty members as well as students from physically different locations and with different linguistic and cultural backgrounds. In COIL projects instructors work collaboratively as a team in a remote fashion to create a common syllabus focusing on student-centered, experiential and collaborative learning. In these projects, participants form online communities of practice. Nowadays COIL projects are increasingly integrated into the pre-service teacher education programs. The membership of an online professional community of practice enables students, as well as teachers and teacher candidates, to be engaged in an exchange of ideas, experiences and resources (Chen et al., 2009; Hur & Brush, 2009).

Engagement in online communities bring multiple benefits to the community members such as the following: A reduction in the feelings of isolation (Duncan-Howell, 2010; Gray, 2004), an accelerated rate of informal knowledge sharing in temporal and spatial terms (Duncan-Howell, 2010; Young & Tseng, 2008), and new knowledge construction (Wang et al., 2008). These online professional learning communities can also "provide … personal learning opportunities for educators within and across schools, … preservice preparation and in-service education institutions and professional organizations" (U.S. Department of Education's National Education Technology Plan, 2010. p.xviii). Despite the great promise online communities of practice hold for successful knowledge sharing and online communication/exchange of ideas, establishing a virtual platform and expecting pre-service teachers or teacher educators to be engaged in a smooth and spontanenous interaction with a nice flow of ideas are likely to be quite challenging (Ardichvili, 2008; Chiu et al., 2006; Fang & Chiu, 2010).

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Without a strong bond or well-developed interpersonal relationships/a strong sense of interdependence between the group members (i.e., a sense of community), who display committment to a common goal/goals (i.e., a sense of group ownership), online communities are not likely to succeed. In fact, trust is acknowledged to foster knowledge sharing in online communities (Ardichvill, 2008; Chiu et al., 2006; Usuro, et al., 2007; Young & Tseng, 2008). Knowledge sharing in the study is described as a communication process where one or more individuals are involved in the provision and acquisition of knowledge (Usuro et al., 2007). Trust plays an important role in the establishment of cohesion in such communities, leading to the maintenance of interaction and quality knowledge sharing (Hoy & Tschannen-Moran, 1999; Usoro et al., 2007). It is also the key element in the creation of a safe learning environment for a virtual exchange community, which is considered an online community of practice. In the study trust is defined as a multifaceted concept that incorporates one party's readiness to take the risk of being vulnerable, given the other party's benevolence, reliability, competence, honesty and openness (Hoy & Tschannen-Moran, 1999). Building trust among virtual exchange/COIL project participants is the sine qua non of good group dynamics and a strong affective bond and team spirit among participants, playing a vital role in the effectiveness of the virtual exchange.

Although the extant virtual exchange research literature seemed to focus on the benefits and challenges of virtual exchange programs/projects as well the participants' perceptions of the impact of such research on their personal and professional development and task design, the impact of virtual exchange programs/projects on the cultivation and development of digital trust is still underexplored. In fact, there is a paucity of research on online communities of practice (e.g., Booth, 2012). Also, to the best of the researcher's knowledge, there has been no study focusing on the investigation of how knowledge sharing and trust are cultivated and developed by online communities in the virtual exchange contexts (See Booth, 2012). Hence, the current qualitative case study investigated how knowledge and trust are cultivated and sustained in an online community of practice in a COIL project that are composed of Mexican and Turkish undergraduate students in the fall semester of the 2020 and 2021 academic year. 41 EFL pre-service teachers of English as a Foreign Language (EFL) from an English-medium urban state university from Turkey and 35 Mexican university students from different departments at an urban state university from Mexico participated in the study. The Turkish students were between 20 and 40 while the Mexican students were between 20 to 27. The exchange is embedded in an elective course called 'Language and Culture' at the Turkish university while it was embedded into a must course called 'International Competences 1'. The participation in the project was on a voluntary basis for students in both groups.

Regarding the theoretical framework in the study, Wenger's (1998) social theory of learning and the communities of practice (COP) (Lave & Wenger, 1991; Wenger (1998) were adopted as the theoretical frameworks in the study. Wenger's theory of learning, which is accordance with Vygotsky's (1978) theory of sociocultural cognitive development, advocates constructing knowledge via interpersonal interactions. Exploring knowledge sharing and trust from the perspective of social learning theory highlights the intricate nature of learning in a virtual social space (Booth, 2012). In the study, COPs are defined as groups of people who work in colllaboration to achieve common goals and solve problems, share best practices, provide support

for one another and develop their knowledge and expertise in a topic they are interested in via ongoing interaction (Lave & Wenger, 1991; Wenger et al., 2002). Online communities generate an alternative social space for collaborative learning irrespective of temporal and spatial boundaries (Booth, 2012).

As the study addresses the way(s) knowledge and trust are cultivated and maintained in the online learning environment of the COIL project, the selection of the information-rich cases was of great importance for the researcher. Therefore, a purposeful sampling strategy was employed in the participant selection. The in-depth online focus group interviews with the participants, reflective journals, as well as the document analysis (the participants' task-related posts on the closed project Facebook group) were used in the data collection. The qualitative case study was adopted as the research design in the study (Yin, 2009). The study lasted 6 weeks in the fall semester of the 2020 and 2021 academic year. The data were collected via asynchronous tasks posted on the closed project Facebook group (participants' individual or group activity reflection posts, peer comments, as well as their final individual and group reflections at the end of the project), and synchronous Zoom meetings with both groups. A three-layered task design was employed in the study: information exchange, comparison and analysis, and collaboration (O'Dowd & Ware, 2009), which was found to foster the cultivation and sustainability of trust among participants via knowledge sharing.

Methodology

The data analysis was conducted via content analysis. In order to ensure the relability of the analysis, a departmental colleague who were experienced in qualitative data analysis collaborated with the researcher, who was also the course instructor of one of the project groups during the data analysis stage. Member checking and data triangulation were used to strengthen the validity of the qualitative data analysis in the study. The findings indicated the interrelated nature of knowledge sharing and trust in the online communities of practice in the COIL project. Regarding the cultivation of knowledge sharing in the project, the three-layered task design in the project providing opportunities for the participants to be engaged in structured informal and task-related as well as collaborative interactions in a variety of task was found conducive to knowledge sharing among the participants as members of online communities of practice. The study also pointed out that the incorporation of ice-breaking activities in small groups and as a whole community via synchronous Zoom sessions in the initial stages of the project also promoted knowledge sharing in the online communities of practice in the COIL project, paving the way for the development of trust among the participants by helping build a sense of community. In addition, the utilization of a closed Facebook group as the online project platform was reported to foster safe learning and knowledge sharing, contributing to building trust among the COIL project participants. In relation to the sustainability of knowledge sharing, the study revealed that along with the use of closed Facebook group as an online exchange platform, sharing personal cultural experiences and exchanging intercultural experiences via various Web 2.0 tools and applications in the project and encouraging peer commenting sustained knowledge sharing in the online project community were found effective design features by the participants These practices also promoted a growing sense of trust

throughout the project, which also fostered openness, one of the main facets of trust building (Tschannen-Moran & Hoy, 2000).

Results

With respect to the sustainability of knowledge sharing. the study also demonstrated that the incorporation of a structured synchronous Zoom session had a favourable impact on the sustainend knowledge sharing in the online communities in the project. In this session, participants were encouraged to engage in a focused online discussion on hot, critical issues, and cultural stereotypes in their countries in breakout rooms and to raise their intercultural sensitivity and awareness, which promoted the emergence of multiple perspectives, and creation of a shared context for the ongoing online exchange flow.

In relation to the cultivation of trust in the COIL project, the findings indicated that trust flourished in the online communities of virtual exchange through the collaborative work in small groups focusing on a common goal (i.e., preparing an online magazine on one of the United Nation's sustainable developmental goals). The collaborative work engagement also helped the participants develop a collective identity. Also, the group members' structured task-related interactions around a common goal led to the emergence of a sense of trust among the group members eventually. In addition, assuming different roles in these task-related interactions through which participants display their expertise and uniqueness in the online community context to achieve a common goal helps them develop a sense of competence in a task-related knowledge domain which, in turn, facilitates the cultivation of trust in the group. Also the collaborative engagement geared towards a common goal augmented their sense of ownership in the project, enhancing their trust in the members of the online communities of practice. Closely related to their sense of project ownership, the participants' commitment to the project, their sense of responsibility and their willingness to communicate when intra-group conflicts arose also affected the cultivation of trust positively.

Acting as moderators, the course instructors contributed to cultivating and sustaining a trusting learning environment in the project by acting in a competent, credible and reliable manner in the following ways: by designing diverse and graded tasks, providing constructive and timely feedback for participants regarding their tasks, posting tasks on Facebook regularly, showing acknowledgement concerning the participants' posts on Facebook, responding to participants' mails promptly, allowing them to ask questions for clarity as well as being mediators in conflict resolution. In general, the establishment of an active student-centered learning environment embracing diversity based on mutual understanding, tolerance and respect contributed to the knowledge sharing and trust formation among the participants in the online community, addressing the benevolence aspect of building trust.

The study provides a clearer picture of how online communities function as social learning spaces (Booth, 2012). It also underlines the subjective and context-dependent nature of trust (See Rousseau, et al., 1998). In addition, it emphasizes the salient role trust plays in knowledge sharing in online communities (Booth, 2012). Based on the findings regarding the cultivation and development of of trust In the oral presentation, the implications for practice will be provided.

Limitations

Although the limited number of sample size and the relatively short duration of the study rendered it hard to generalize the findings, the study can be considered to provide a road map for the novice virtual exchange practitioners who seek to establish and deepen knowledge sharing and trust among the members of their online communities of practice as well as virtual exchange researchers who explore the strategies to cultivate and develop digital trust on an intercultural level. Future research may involve the further investigation of the role of structured exchanges and interactions as well as the task design in cultivating trust and fostering knowledge-sharing in online communities in the intercultural atmophere of virtual exchange projects. Additional research might also be needed to explore the role(s) of virtual exchange practitioners in the online communities (e.g., as mentors and leaders). The contribution of active and inactive virtual exchange community members to the cultivation and sustainability of trust might be regarded as other promising areas.

Keywords: knowledge sharing, trust, digital, online communities of practice, Collaborative Online International Learning (COIL) projects/virtual exchange, interculturality, context-dependent, social learning theory

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Intuition

The Conscious Internet: An Empirical Study of the Intuitive Transmission of Healing Energy via the Internet

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ABSTRACT

This research studies the intentional encapsulation of healing energies into an email text message and transmittal via the Internet to an intended intuitive recipient. This study framed within the field of energy medicine researches the potential impact on the learning of distance students; as well as investigates a method for a stronger link-transference of information between distance educators and students. This study tests information discovery on non-linear, non-local communication; as well as studies an implied evolution of the sense of intuition. Distance education and intuitive communication are both non-linear, non-local systems of information exchange. Internet email can hold intentional sensorial resonance; and this type of email can be used as a provider of energy-information which can be utilized as part of an energy medicine distance education program. An intuitive person can open an Internet transmitted email and receive the emotional/cognitive content of intentionally encapsulated energy/information; and this occurs both as a non-local and non-linear experience. The Internet is an evolving ecological system capturing and holding human thought in digital format traversing time and space in order to deliver content. The weaving of intuitive and Internet communication is spawning a World Wide Web, small-world phenomena by shortening energetic time-space distances between people. Within this research is a hypothesis that a student and teacher may be more strongly connected at a distance with the intentional link of energy/intention included within the curriculum of a distance education program. This linkage information gives new significance to distance healing research within the medical, parapsychological, and noetic sciences. This connection seeks to inspire and identify fertile areas for cross-disciplinary exploration. Index Terms— Education, energy medicine, extra-sensory perception, Internet, Intuition, neural networks, psychology.

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Measuring Intuition with Vignettes

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Introduction

Experts are able to distinguish patterns by small and opaque differences as well as making fast and successful decisions in uncertain non-routine situations (Dreyfus, 2004). This phenomenon to recognize patterns and to make sense of them is referred to as intuition. It can be defined as the knowledge base needed to recognise situational cues that allow experts to access memorized information spontaneously (Simon, 1992). Intuition can be used to decide adequately and therefore, to act appropriately, especially in uncertain and novel situations. Intuition is an important quality of expertise which is developed through professionals' learning through experience. An important contribution to the development of intuition comes from mental simulation. However, the relation between mental simulation and intuitive decision-making has not been thoroughly examined yet (Harteis, 2017). Only few empirical studies concerning this particular relationship exist. The main challenge in intuition research is to grasp expert's intuition. This contribution proposes a methodological approach to measure crisis response worker's intuitive decision-making by combining written vignettes with closed items. Vignettes are widely used in the context of decision-making research in different domains (e.g. medicine (Palmer Kelly et al., 2020), social welfare (Przeperski & Taylor, 2020), aviation , (Irwin, Sedlar, & Hamlet, 2020) as well as for different academic disciplines (e.g. ethical decision-making (Mary Oluoch, Amollo Odundo, Mwangi, & Richard Oyier, 2018) and workplace learning (Leicher & Mulder, 2018)).

This contribution discusses the main challenge to construct vignettes that allow to measure intuitive decision-making. It proposes a methodological approach in which real situations are derived and modified from an interview database, validated by experts and, in the final instrument, combined with closed items.

Crisis Response Workers (CRW)

CRW are trained volunteers who are called to emergency operations (e.g., fatal accidents). They offer spiritual support, counsel, and help to the victims and other people affected on-site (Martens, 2004). CRW do not offer therapy, but try to prevent the development of future trauma with a short time intervention (Müller-Lange & Autschbach, 2013). Because intuitive decision-making is used in uncertain non-routine situations, CRW is a promising area of research. They also work in unfamiliar terrain (Müller-Lange & Autschbach, 2013), e.g., streets and railroad tracks. These operations are complex because several individuals are involved, the scene is unclear and confusing, or it has to be figured out what to do upon arrival. CRW usually work by themselves and have no option to receive direct feedback.

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Vignettes

Two main specifications have to be taken into account when constructing vignettes: First, criteria for vignettes need to be fulfilled. Leicher & Mulder Leicher and Mulder (2018) lay out three different main criteria: for the construction process (e.g. collaboration with professionals of the domain for validation), for the content (complexity, connectivity, Hughes & Huby, 2002), and for the style of the vignette (e.g. no more than 200 words, narrative character).

Second, the vignettes have to present situations and tasks that demand intuitive decision-making. Some criteria are required for vignettes in general (such as connectivity). Others are also met easily (e.g. non-routine situations, need for a broad knowledge base, no ideal solution). Some situational criteria that pave the way for intuitive decision-making, cannot be met: time pressure is hard to induce in a questionnaire setting because the instrument would measure the participant's reading and typing skills rather than their actual decision-making. The vignettes describe situations that meet the criteria for challenging tasks within the domain of CRW. Nevertheless, it will never be as complex as a real setting or a video. The CRW's attention and reception are rather guided by the linear character of the written description.

Empirical Data Base

The empirical base for the vignettes are eleven interviews that followed a modified critical incident approach (Klein, 1997). The interviews lasted between 49-118 minutes. Six interviewees were male. The interviewees have experienced between three and more than 500 operations. All experience levels were represented: four participants with 0–3 years (novices), three with 8–10 years of experience (intermediates), and three with more than 20 years of experience (experts). They were asked to think about situations that were complicated, new to them, had an unexpected event, and/or required decisions to be made under uncertain circumstances (e.g. "I ask you to remember a very complex operation in detail. Maybe an operation in which something unexpected happened or something that was professionally challenging, where no routines/plans would help."). Another question asked for criteria to distinguish challenging and complex tasks from more common situations.

The interviews were being transcribed verbatim and analysed using qualitative content analysis sensu Braun and Clarke (2006). A deductively developed coding system was inductively revised as well as modified and complemented during analysis. This contribution focuses on the category "Intuition demanding situations" which is composed of two subcategories "professionally challenging operations" (e.g. involvement of children, complicated relationship constellations of the individuals on-site, missing resources on the part of the individuals in need) and "unexpected occurences" (e.g. more individuals involved than expected, sudden dangers (e.g., dogs), and foreign languages).

Validation through Experts

By now the project is in its validation phase. Seven vignettes have been constructed under the necessary specifications and now the content criteria are operationalized for the expert validation. The first step of validation can be conducted by interviews as well as questionnaires. Some questionnaire items illustrate the instrument for validation. Experts are mainly asked for the correctness (e.g. “Terms are used correctly.”), complexity (e.g. “The described operation consists of many notable aspects.”), and authenticity (e.g. “An operation like this could also take place in my operation range.”). Experts evaluate each item on a 5-point-scale (1= completely disagree, 5=completely agree) and can add written comments. Experts are also asked about their actions in the described situation to derive a scale for measuring the final participant’s answers. In a second step, the analysis of the evaluation is conducted aiming to reduce the number of vignettes to only four and to improve these four vignettes in regard to the expert’s comments. The last step requires the vignettes to be presented back to the experts to get their final approval.

Vignettes in Research

In the final questionnaire vignettes will alternate with closed items. At first, participants are instructed to carefully read the vignettes and to give written free-text answers on what they would do in that situation. After the participants wrote down their answer, a closed scale queries in how they made their decisions. Novak and Hoffman (2009) developed the scale for Situation-Specific Thinking Styles. It allows to assess the mode of decision-making regarding a specific task, which makes it suitable to gather information about participant’s decisions evoked by the vignettes. Analysis of the final questionnaire compares participant’s answers in relation to expert’s answers to the vignettes in order to evaluate participant’s levels of intuitive decision-making. Another measurement for the decision-making style is their score on the intuitive scale of situation-specific thinking styles.

Conclusion and Prospects

Vignettes are suitable to measure intuition, because they can present challenging and complex tasks that professionals have to respond to. They are an adequate mean in decision-making research in general and, as a result, can also be applied to get a grasp of professional’s intuitive decision-making. The main shortcomings are the lack of time pressure and of disruptive factors. Nevertheless, these are not the main aspects defining expert’s intuition.

Keywords: Intuition, Vignettes, Measurement

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The importance of Intuition for being successful in Business (at work)

Tanya Schindelin

Again and again you hear from professionally successful people that they make decisions based on their intuition. But what is really behind it? And how is it possible to perceive your inner voice and make successful decisions based on intuition? First of all, it is fundamentally important to look at the laws of nature. Above all, the structure of the human being. All solid, liquid and gaseous substances consist of energy. This is very well known in the natural sciences of physics and chemistry. So all galaxies, stars and planets, the things of our everyday life and also we humans, consist of three particles - positively charged protons, electrically neutral neutrons and negatively charged electrons. The material body of a human being is covered by a network of energy channels comparable to the bloodstream network, also known as nadis or meridians. In the field of holistic medicine it is well known that the material body is surrounded by the etheric body, which has the task of holding the material and spiritual body together.

In 1937 the sowjet electrical engineer Semjon Davidowitsch Kirlian discovered the possibility to photograph the energy field (Aura) and in detail the energy channels (Kirlian photography). The energy channels are supplied with life energy through energy vortices (approximately 88 000), also known as chakras or acupuncture points, which lie on the energy channels. In addition to food and drink, a human being also needs life energy for living. We absorb a lot of new life energy, especially when we sleep. If we sleep restlessly, are full of negative thoughts, then we feel tired and exhausted the next day. As a result the body can absorb little or hardly any vital energy via the energy vortex. If we have a relaxed and peaceful sleep, the body can absorb a lot of life energy and we feel powerful and full of energy the next day. Experiment: Try the following exercise to get to know how your energy supply works. Please sit down and close your eyes. Take a deep breath. Please begin to think (approximately 1 minute) about a situation in your life which troubles you a lot. How does it feel? Is your body relaxed or tense? Do you feel full of energy or powerless? Now focus (approximately 1 minute) your thoughts on something you love doing or a place you adore. How does it feel? Is your body relaxed or tense? Do you feel full of energy or powerless? Which situation was more comfortable? The experiment shows how our thoughts and feelings affect the absorption of life energy.

To fully understand how intuition works it is important to have a closer look at the etheric body. It is composed of the mental and emotional body. Mental Body: Here are all the imprints, beliefs, dogmas and experiences stored that affect your thinking and your mental attitude towards yourself and allow you to act in your decisions towards your environment. Emotional Body: Location of all positive and hurted feelings. Etheric Body: The sum of your thoughts and feelings (your soul, your own individual being, your “I am,” your character) make up your physical world on Earth. This affects both your physical body and the design of your environment, i.e. which friends and those you know, your profession, all your experiences that you make professionally and privately. The way you think and feel, so you manifest your life (cause-effect). Through our thoughts (believe patterns) and feelings we create our future in private and business. They control us unconsciously and create our future (law of attraction). Case study - Mobbing in business:

If you heard constantly in your childhood from your familiy and teachers: “You are too stupid! You will never achieve anything!” Then these belief patterns can cause many years later in adulthood that you always find work in companies, where your boss or other employees mob you. Or if you try to be a successful entrepreneur you regularly fail. This is due to the belief patterns which cause a lack of self esteem and self-consciousness. The result is that you always attract the same working conditions or you always fail because nobody is buying your products. Negative belief patterns and hurted feelings are also responsible for not being able to act intuitively. We are all connected with a higher source or also known as good or universal awareness. If we are in balance we are able to perceive intuitive information. If we are blocked with negative belief patterns and hurted feelings we are not able to listen to our intuitive information.

What important role does the pineal gland play in the system of intuitive perception? The clinical associate professor of psychiatry, Prof. Dr. Rick Strassman found out in his studies that the pineal gland in the human brain produces DMT. This enables us to perceive other dimensions, i.e. communication and exchange on a subtle level with people, animals, plants, other planetary worlds, morphogenetic fields, divine source. That is the technique how healers, angel therapists, light workers or holistic teachers receive their information (clairvoyance, clairaudience, clairsentience). Your pineal gland is activated when you are relaxed and focussed on positive thoughts and feelings. Food and drinks also have an effect on the pineal gland. For example, too much alcohol, fast food, caffeine or tobacco can reduce the function.

And as a result block your intuition, too. Abstract To have a good intuition the following points must be observed: 1. Daily mindset training - How are my thoughts and feelings? What techniques can I apply to keep them positive? 2. Food and drinks - What do I eat and drink? 3. What does my body need today? Sports, meditation, a walk, nature? 4. Fokus on my goals References from popular semi scientific publications: Napoleon Hill, Dale Carnegie, Cyndi Dale, Louise Hay, Dr. Joseph Murphy, Prof. Dr. Rick Strassman, Semjon Davidowitsch Kirlian (Kirlian Fotographie), Rupert Sheldrake, Oprah Winfrey, Vera F. Birkenbihl, Jürgen Höller, Katrin Hill, Bodo Schäfer, Laura Malina Sailer, Tobias Beck, Jeanne Ruland, TCM, Ayurveda, www.weltderphysik.de

Hotel Management

The Adoption of Digital Marketing of Hotels in Camarines Sur, Philippines

Jessa Brioso[42] & Noelah Mae D. Borbon[43],

ABSTRACT

The Corona Virus Disease (CoViD-19) has forced the hotel industry to adopt digital marketing. The gap lies in the ideation of whether the target market will be susceptible to these advertisements seen on a digital marketing platform. The study aims to measure the factors and impacts of the adoption of digital marketing on customers' purchase intention of hotel-related products and services of DOT (Department of Tourism) accredited hotels in Camarines Sur. The exploration utilized a quantitative and descriptive method with 385 respondents identified through the Raosoft Sample Size Calculator based on the tourist arrivals in Camarines Sur for the past five years. The qualified participants of the study are those who checked in to DOT accredited hotels in Camarines Sur and corroborated digital marketing as their booking media. Interactivity Theory and Unified Theory of Acceptance and Use of Technology (UTAT) guided the research. In comparing differences, Mann-Whitney Test has been implored. Kruskal-Wallis Test also served as a non-parametric method for testing the significant difference. Results depicted that respondents agreed that all the factors influence them in their adoption of digital marketing, with 3.27 as the composite mean. They also agreed that digital marketing impacts their purchase intentions on DOT accredited hotels' products and services in Camarines Sur with a combined value of 3.38. The output is a marketing innovative plan that can be proposed to hotel organizations to improve their digital marketing. Furthermore, future research may focus on maintaining hotel employee service orientation through digital marketing amid a normal setup.

Keywords: digital marketing, factors, impact, influence, new normal

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Digital Marketing among DOT Accredited Hotels in Camarines Sur: Basis for Action Plan

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ABSTRACT

Change is inexorable. It may lead to a total overhaul of an already existing system in an organization or it can bolster the operations that can make the company incomparable. Hence, total reformation and transformation is needed to accompany these alterations. With the Corona Virus Disease (COVID-19), there is an imposition of technological advancements and adaptability. Digital marketing among various hotels has been acquired to accompany the fast-paced corporate world. With this, the hotel industry has implemented programs and practices that will sustain market penetration. The adoption of digital marketing has paved the way for hotel's future innovation and diversification. The gap lies in the ideation of whether the target market will be susceptible to these advertisements seen on a digital marketing platform. The study aims to measure the factors and impacts of the adoption of digital marketing on customers' purchase intention of hotel-related products and services of DOT (Department of Tourism) accredited hotels in Camarines Sur.

There were three hundred eighty-five (385) respondents of the study based on the tourist arrivals in Camarines Sur, which is 3,122,156 (City Government of Naga, 2020). The researcher used the Raosoft Sample Size Calculator to determine the research participants with a margin error of five percent. Also, it has a 95 percent confidence level as the amount of uncertainty the research can tolerate and 50 percent response distribution. The qualified participants of the study are tourists or travelers who are using digital marketing to purchase accommodation and services from DOT accredited hotels in Camarines Sur. Choosing these groups determined the factors and impacts of digital marketing used by hotels in the new normal setup. However, not included in the study are those respondents who did not utilize digital marketing as their platform for choosing their hotel accommodations and those who do not receive hotel-related marketing and advertisements from digital marketing platform. There was a qualifying question that needs to be checked and if they answered 'YES', they will be able to proceed with the survey. The research questionnaire underwent content validation and pilot testing. The instrument's reliability was checked using the Cronbach Alpha Reliability Coefficient Test. Factors influencing the adoption of digital marketing (0.929) and Impact of Digital Marketing (0.982) have an excellent value of Cronbach's alpha higher than 0.90. Consequently, Interactivity Theory and Unified Theory of Acceptance and Use of Technology (UTAT) were employed to create the question items for the research, and therefore the research framework. The statistical tools and techniques answered the study's research questions in the presentation and treatment of the data. In identifying the respondents' demographic profile, assessing the factors influencing the adoption of digital marketing in receiving hotel-related advertisements of DOT Accredited Hotels, and determining the impact of digital marketing of DOT Accredited Hotels in Camarines Sur, Percentage, frequency distribution, and weighted mean were used.

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More so, to compare differences between two variables, factors versus profile of the respondents and impacts versus profile of the respondents, Mann-Whitney Test has been adopted. Furthermore, Kruskal-Wallis Test has served as a non-parametric method for testing the significant difference in the assessment of the adoption of digital marketing when grouped according to the profile variables. Results depicted that respondents agreed that all the factors influence them in their adoption of digital marketing, with 3.27 as the composite mean. They also agreed that digital marketing impacts their purchase intentions on DOT accredited hotels' products and services in Camarines Sur with a combined value of 3.38. It was shown that there was a significant difference in performance expectancy (0.039) and hedonic motivation (0.004) when grouped according to sex since the obtained p-values were less than 0.05 alpha level. It means that the responses differ significantly, and based on the test conducted, it was found out that female respondents have a more excellent assessment on performance expectancy and hedonic motivation. It can be observed that the primary constructs that determine the impact of digital marketing of DOT accredited hotels in Camarines Sur on customers' purchase intentions are performance expectancy and hedonic motivation.

It clearly shows that digital marketing will help the respondents carry out their travel goals and accommodations expectations. Digital marketing reinforces the enjoyment of the respondents leading to their hedonic motivation towards booking hotel accommodation. There was also a significant difference found when grouped according to digital platforms frequently visited because all computed p-values were less than 0.05 alpha level. Thus, the result reveals that the responses vary statistically, and based on the pairwise comparison, it was found out that those who always visited these platforms have a more outstanding assessment. However, only the Perceived Relevance (0.002) got the lowest, interpreted as Significant; the rest were Highly Significant. The output is a marketing innovative plan that can be proposed to hotel organizations to improve their digital marketing. Furthermore, future research may focus on maintaining hotel employee service orientation through digital marketing amid the insurgence of COVID-19. Upon consolidating the study results, it is recommended that hotel organizations may improve their digital marketing in terms of Active Control and Synchronicity of their advertisements in digital marketing platform.

An in-depth understanding of the importance of these factors will allow them to appreciate and comprehend the guests who are using digital marketing. Furthermore, the researcher recommends strengthening the features, informativeness, and usefulness of the digital marketing platform used by hotels to cater to diverse market segments. It is also recommended that they optimize their digital marketing platform making it available as a mobile application. The researcher strongly recommends that future research regarding the benefits of digital marketing should be explored. Also, a research-based website should be produced to ensure the viability of the digital marketing platform. Furthermore, research on the effectiveness of social media as a marketing tool can be conducted. Future researchers should place an impetus on distinguishing fake news and information from the digital marketing platforms of these hotels. Perhaps, they could also consider studying how to maintain hotel employee service orientation and service quality even in the new normal with digital marketing.

Keywords: digital marketing, factors, impact, influence, new normal

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Perceived effectiveness of Storytelling through Virtual Reality (VR) in Destination Markting

Aishath Shany Habeeb[46], Kandappan Balasubramanian[47] & Rokhshad Tavakoli[48]

ABSTRACT

Virtual Reality (VR) has enhanced tourism industry in various aspects. VR improved tourism planning, facilitated preservation of cultural and heritage attractions, increased the accessibility for certain segments of the markets (Cheong, 1995; Guttentag, 2010; Paquet & Viktor, 2007; Sundstedt, Chalmers, & Martinez, 2004). Moreover, VR is impactful in tourism marketing.

Likewise, storytelling is a frequently used marketing tool in tourism industry. Storytelling is a depiction of the experiences among tourists. It helps the tourists to relive their experiences from the memories of their journeys. Marketers use storytelling to create an emotional appeal through which the tourists can connect to the destinations. The emotional appeal helps to create long-lasting positive impacts in the minds of potential travelers (Bogicevic, Seo, Kandampully, Liu, & Rudd, 2019; Moin, Hosany, & O'Brien, 2020). Marketers use different mediums to depict the brand through stories, however, VR is an emerging tool used in marketing.

Malaysia has also incorporated VR in promoting tourism. Sarawak is a notable state which has aimed digitalize their tourism promotion by establishing different degrees of VR contents. The 360-degree videos based on desktops is popular among Malaysian tourism marketers. However, more immersive forms are yet to gain recognition in the Malaysian tourism industry. Nevertheless, it is crucial to recognize that the effectiveness of VR to a destination like Malaysia must be studied before the implementation. Therefore, this study aims to explore the perceived effectiveness of storytelling through VR as a marketing tool in promoting Malaysia as a destination. This study considers the perspective of tourism experts, marketers, and content creators. Furthermore, the study seeks to explore the context applicable to use storytelling through VR in destination marketing and the impact of storytelling through VR in destination marketing.

The purpose of this study is to explore the effectiveness of storytelling in tourism destination marketing using virtual reality from the perspectives of tourism experts, marketers, and content creators. Given the aim, qualitative approach; subjective interpretivism is best suited to explore the effectiveness in-depth. Qualitative approaches are particularly helpful in gaining in-depth knowledge, and to study complex issues (Saunders, Lewis, & Thornhill, 2009). Virtual reality is a complex subject despite being studied for many years. In fact, it is a result of the ever-evolving technologies which broaden the spectrum of virtual reality. Moreover, experiences and perceptions are subjective; it varies among individuals. Therefore, subjective interpretivism is the best fit for this study. The approach used is also a reflection of the researcher's ontological and epistemological beliefs. This study will use ethnography; specifically, netnography as the research strategy. Netnography can be used to explore VR experience (Tavakoli & Mura, 2018) among tourism service providers. Moreover, netnography helps in exploring the emotions and motives behind the stories shared by people (Lund, Cohen, & Scarles, 2018). This justifies the use of netnography as the research strategy.

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Data collection method for this study is in-depth, semi-structured interviews. A guiding questionnaire was drafted before the interviews. The questions mainly focused on exploring the perception of storytelling using VR in tourism and destination promotion and the perceived impacts of it among the participants. Further questions are asked during the interviews. This ensures insightful data is collected during the interview process. Given the circumstances, all the interviews are carried online using a video-call platform, Zoom. It helps to reach participants from different regions who are well-versed in virtual reality and destination promotion. The online video-call feature ensures that no experiential data is lost during the process. Data collection will continue till data saturation is reached. Data analysis is done using thematic analysis. Similar themes are identified and coded during data analysis. Moreover, content analysis is done on the videos used for the study, to further explore the factors contributing to effectiveness of VR videos. Participants for this research includes three sub-groups. The sub-groups include tourism experts, tourism marketers, and tourism-related VR content creators.

The respondents were asked to watch two YouTube based videos using a VR head-mount. Few respondents resorted to desktop as the head-mount was not readily available. The first video was a Vlog style, based on YouTube. The clarity and resolution of the video was low; however, the feeling of presence was high on this video. The second video had more clarity, and the story was more compelling.

The preliminary findings of this study are categorized into; effectiveness of VR storytelling to promote destinations, the context for the use of VR storytelling in destination promotions, and the impact of VR on storytelling to promote destinations.

VR is an effective medium in comparison to other marketing tools. It enhances the attractiveness of content and helps in building positive destination image in the minds of potential travelers. The effectiveness of storytelling through VR in destination promotion highly depends on the story itself:

- “If you have a good story to tell, and a good storyteller, does not have to be a person, but then medium, then VR will have it done” (Richard, Academician)
- “In my opinion VR is just a tool. 360 video is just a tool. The content is more important than the tool” (Henry, Academician)
- However, multiple features of VR such as interactivity, presence and level of immersion are crucial factors in enhancing the story.
- “But also, from my own research what I found is the key element of VR is engagement, interactivity” (Richard, Content creator/Academician)
- Stories through VR must focus on confined spaces such as museums, heritage sites, hotel, and cruises. It has the potential to be explored in extreme tourism.
- “You can even increase the effect of fascinating landscapes with the VR. So, in a natural context like jungle reef, Alpine regions or volcanoes, stuff like that, I think you can really empower these situations. I think cultural sites could be yeah promoted in a very effective way” (Brian, Marketing expert)

However, the content analysis on videos depicts that open spaces and attractions are popularly used in promoting tourism, espcially in 360-dgeree format.

The findings of the research will help to understand the perceived effectiveness of storytelling through VR in destination promotion. It will add to literature on the contexts of storytelling through VR as well as implications associated to it. The findings will also be useful to destination management offices in decision making.

Keywords: Virtual reality, Tourism marketing, Storytelling Theory, Destination marketing

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Examining the Success Factors of 720-degree Panoramic VR Tourism for Destination Marketing in China

Liu Yan[49] & Kandappan Balasubramanian[50]

ABSTRACT

Tourism destinations need to innovate and adopt more advanced technology to be sustainable and keep attracting visitors. The study is focusing on 720-degree Panoramic Virtual Reality (VR) Tourism, which has great potential as a marketing tool for tourism destinations as it provides users with a relatively real sense, informative, immersive and interactive pre tourism experience for free (Kim & Hall, 2019). Moreover, it is growing in popularity in China in recent times that many tourism destinations in China used it to produce professional VR Tourism products which attract much attention that the VR Tourism video of Wudang Mountain has gained more than 200,000 views (Quanjingke, 2020). However, VR tourism is still at an early stage in China. Tourism organizations and destinations have not well used VR for marketing as they cannot effectively transfer Virtual tourism users (potential consumers) to actual consumers (Huang et al., 2016). Thus, the two main objectives of the study are to figure out what factors influence users to generate an intention to visit the destinations that they have been experienced in VR and examine the method of optimizing the existing VR Tourism products.

Introduction

There is little research on 720-degree Panoramic VR Tourism which has great potential and is suitable for popularization. Most of the relevant research is focused on the 3D world such as the second life and VR wearable devices (Huang et al. 2013; Huang et al. 2016). Various data and cases have confirmed that it has received a lot of attention as a novel form of promotion as the technology has a large potential market and is progressing (Mania & Chalmers, 2001; Li, Lin, Huang & Yao, 2020). However, there is a lack of scholars and professional and academic guidance in the industry. Besides, most studies related to VR tourism conducted Quantitative research methodology and focus on the perspective of users. However, there is a lack of the perspective of VR tourism providers and academics who have a lot of valuable and professional understanding and advice about VR tourism. That is why the research conducted mixed methods. In addition, there is also little research on how to better transform VR tourism users into actual tourists which is the biggest purpose and significance of Virtual tourism as a marketing tool at present. Therefore, the study on this topic is valuable and necessary.

This study combines the UTAUT 2 model, presence theory and the conception of digital trust to develop a theoretical framework of virtual tourism, which is used to investigate its success factors as a marketing tool of a tourism destination. They are Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions, Hedonic Motivation, Habit, Presence and Digital Trust. Based on the literature, the factors are

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predicted that will influence the intention of use VR tourism and thus make users generate an intention to visit the destinations they have been experienced (Venkatesh, Thong, & Xu, 2012; Yung, Khoo-Lattimore, & Potter, 2020; Launer, & Cetin, 2021). Besides, age, gender, experience and income will be mediations. The study also wants to figure out what characteristics of users are easier to generate the intention. UTAUT2 was an integration of eight predominant theories related to technology acceptance and suitability in a consumer context, and the generalizability of UTAUT2 has been proved and supported by a lot of studies (Venkatesh, Thong, & Xu, 2016). However, the studies using UTAUT2 in the context of tourism are relatively few. After searching on Scopus with VR (tourism) and UTAUT as keywords, only five papers were found. Three of them were literature reviews, only two VR related papers adopted UTAUT theory (Rauscher, Humpe, & Brehm, 2020; Low, Shang, Siang, Zakaria & Emran, 2017), and UTAUT2 has not yet been adopted.

To obtain more comprehensive and in-depth results, this study adopts the mixed research method that using both qualitative and quantitative methods, which provides better insights into a phenomenon and can enhance the validity and reliability of the study (Rittichainuwat, & Rattanaphinanchai, 2015). Firstly, the research will conduct face-to-face interviews with the industry professionals in China to absorb expertise and refine the conceptual framework. The sample for interviews is the field experts such as VR tourism designers, VR tourism companies' managers and academics. The sample size is 12 to 15 people, as 12 is a suitable number recommended by Guest, Bunce, & Johnson (2006). Then, an online survey with Chinese 720-degree Panoramic VR Tourism users on the Quanjingke Platform will be conducted. Based on G*power, the total sample size of the online survey should be 111. Thus, the expected sample size is 150 (at least) and the ideal is about 200. The study will conduct Convenience sampling as the potential participants are in an online interest chat group, the questionnaire link will be sent to this group and put on the social media of Quanjingke website. By using the two methods, the research will be more comprehensive and deeper in a relatively high value, reasonable cost, highly feasible and efficient way. Besides, previous studies only surveyed with users may lead to a lack of the field experts' perspectives, but the most reliable and validated results and findings can be reached only by combining and verifying the opinions of users and experts.

Conclusion

In conclusion, three outcomes of the study were expected. Firstly, confirming the developed model is valid and reliable, and can make contributions to future studies. Secondly, identify specific success factors of 720-degree Panoramic Virtual Reality Tourism for destination marketing. Thirdly, find a way to improve existing 720-degree Panoramic Virtual Reality Tourism products and transfer users to actual visitors. It is hoped that 720-degree Panoramic Virtual Reality Tourism can be better applied in the future, and help these tourism destinations to promote themselves with relatively better value and effect, especially for those less well-known tourism destinations that are in urgent need of more attention and tourists with limited funds.

Keywords : Virtual Reality Tourism, UTAUT 2 Model, Presence Theory, Destination Marketing

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How smart is your Destination? Measuring Tourists' Experiences with Smart Technologies at Smart Destinations

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ABSTRACT

The rapid advancement of information and communication technology has recently made the term "smart" increasingly prominent (Caragliu, Del Bo, & Nijkamp, 2011). Today, technology is progressively becoming a necessity and prerequisite rather than a supplementary tool, with the use of smart technologies prevalent in all things ranging from civil infrastructures to education services (Hall et al. 2000). Owing to this trend, smart technologies have also played an essential role in the tourism sector, not only for the competitiveness of tourism organizations and destinations, but also for the experience of tourists (Azis et al., 2020). Tourism destinations are not an exception for smart technology utilization, since technology has had a big impact on the tourism sector in a variety of ways (Huang et al. 2017). Likewise, many tourism destinations have also adopted the concept of "smart tourism" as more destinations are becoming "smarter" by means of integrated technology platforms through which tourism stakeholders can promptly share and exchange tourism data and information with others (Buhalis & Amaranggana, 2015). However, tourism destination networks have also become more challenging to predict and manage as a result of technological changes. In addition, the past studies on smart tourism destination has been limited in that most previous studies mainly focused on describing the technologies, with relatively few have investigated the impact of these smart technologies on overall tourist experience, satisfaction, and other outcomes (Jeong & Shin, 2019).

Grounded on Stimulus-Organism-Response (S-O-R) model, the study develops a conceptual framework in the context of smart tourism destination in order to test hypotheses related to core components of smart technology experiences and consequences. The theory, conceptualised by Mehrabian and Russell (1974), is a behavioural framework from the area of psychology that explains the reasons that drive the behaviour of individuals. The theory offers a sequential mechanism whereby stimuli (S) in the individuals' environment trigger a behavioural response (R) based on their internal or organismic (O) state. Hence, this study conceptualizes how their experience with smart technologies and memorable tourism experiences affect their behavioural intention. The construct of perceived smart tourism technologies experience is measured in second order, which categorized into four dimensions, namely, accessibility, informativeness, interactivity and personalization (Lee et al., 2018; Jeong & Shin, 2019; No & Kim, 2015; Azis et al., 2020).

Based on an online survey with tourists to top 10 smart destinations in China, a total of 435 valid responses were collected from tourists who have travelled to any of these destinations and experienced with the use of

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smart technologies during their trip. The study utilised a quantitative research approach, with data analysed using SPSS and Partial Least Squares Structural Equation Modeling for the of purpose of exploratory and prediction (Hair et al., 2019). The results of this study revealed that perceived smart tourism technologies experience and memorable tourism experiences significantly play essential roles in enhancing tourist behavioural intention. Their memorable tourism experiences also positively mediates the relationship between perceived smart tourism technologies experience and behavioural intention.

This study specifies that when tourists have pleasant and positive memories at the destination, they are more likely to revisit or recommend the destination to their friends, family and other tourists. On the other hand, if a tourist has a negative experience with smart technologies, he or she may not interested to revisit or recommend the destination to other tourists. Furthermore, this study provides empirical evidence to support the importance of smart tourism technologies and memorable tourism experiences in enhancing their behavioural intention. The findings in this study are in line with other previous studies conducted in several developed countries (Domínguez Vila et al., 2019; Jeong and Shin, 2019; Lee et al., 2018; Vada et al., 2019) as well as developing countries (Azis et al., 2020). This study provides a significant contribution to the literature of smart tourism technologies experience as a multidimensional construct consisting of accessibility, informativeness, interactivity and personalization in this context. The results and findings of this study also provide several managerial implications. First, technology providers have to make sure that the element of memorable experiences are embedded in the design. Additionally, this also provides destination tourism organizations with practical insights into effective deployment of smart technologies at destinations to enhance tourists' memorable experience. Second, the adoption of smart technologies at the tourism destination have shown an opportunity to explore more alternates for planning trip decisions that are more efficient and smoother processes than traditional methods. For this reason, tourism authorities and industry players have to make sure that tourists' expectations are met accordingly.

The research findings and implications of this study are based on tourists who visited to the top 10 destinations in China, thereby, the results cannot be generalized to represent all destinations worldwide. Therefore, future studies are recommended to cover more regions, cities and sample sizes might form different results and conclusions.

Keywords: Smart technologies, Memorable tourism experience, Smart tourism destination, Behavioural intention

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General Management

Mobile Application as a Tool for creating Consumer Social Responability

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Customer social responsibility is closely related to corporate social responsibility. The definition of social responsibility proposed by Quazi et al. [2015] is based on the theory that every consumer has a duty to support companies that demonstrate social responsibility. According to Rodriguez and Ricart [2002], there is a specific correlation between the enterprise and the consumer in the area of corporate social responsibility. On one hand, it is the attitude of consumers and their choices that force entrepreneurs to take pro-social and pro-environmental actions. On the other hand, the decision of entrepreneurs to undertake a voluntary initiative for the benefit of the local community, environmental protection, production of goods and high-quality services provided, setting a fair price for the offered products, makes consumers loyal to the company. According to Griffin [2004], responsible and active consumers contribute to creating a change in the quality of life in a society where each person has an impact on the decision-making processes and actions taking place at various levels. In order to face major societal challenges, new ways of teaching social responsibility should also be fostered. More and more researchers are emphasizing the need to transform the education of society in the field of sustainable development, including the ethics of consumption, as well as the need to introduce a new approach to teaching [Audebrand 2010; Shrivastava 2010, Freeman et al. 2015; Figueiró and Raufflet 2015; Montiel et al. 2018; Lozano et al. 2003; Starik et al. 2010]. Shrivastava [2010] points out that students must develop a passion for sustainability as a prerequisite to be sustainable managers in the future. Today's students are digital natives who grew up in the digital age instead of acquiring digital knowledge as adults. The revolution in smartphone technology made young people socialize, gain access to information and perform daily activities using mobile applications. However, education in recent years has still been carried out using the same pedagogical methods as 20 years ago.

New technologies such as mobile applications are creating cutting-edge opportunities to improve education in the field of sustainable development. The applications offer new ways of looking at environmental and ethical issues related to production and consumption [Gallo et al. 2019, Montiel et al. 2019]. Mobile applications can encourage critical thinking, developing problem-solving skills, and emotional learning of the values of sustainable development and consumption ethics [Montiel et al. 2019]. Importantly, apps are an interactive teaching and learning method that transforms the learning process from passive to active and involves activities where users learn social responsibility [Figueiró and Raufflet, E. 2015]. Mobile applications creating social responsibility enable consumers to gain knowledge about the impact of a given product on health, the use of animals for laboratory tests by companies, the use of unethical practices by employers towards their

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employees, the possibility of exchanging or selling clothes, fighting food waste, supporting local and national producers by buying their products.

Paper focuses on the role of mobile applications in creating socially responsible consumer behavior. An attempt was made to assess the impact of application that create responsible social behavior on students purchasing decisions. The results of the research conducted in 2021 among 86 students from Warsaw University of Life Sciences were presented. The study was carried out in two stages using the diagnostic survey method. The research tool consisted of 2 online questionnaires. In the first questionnaire students were asked about the issues allowing to assess to what extent they display socially responsible behavior. Respondents were also asked to indicate the applications they know that create responsible social behavior and whether they use them in everyday life. After completing the first questionnaire, students were asked to test three particular mobile applications that create responsible social behavior for two weeks. Students tested applications: E -ingeredients, Bunny Free and Good on You. Then, the respondents completed another questionnaire, in which they were also asked questions about the used applications. Both questionnaires contained previously used scales to assess consumer social responsibility [Francois-LeCompte and Roberts 2006; Palacios-Gonzálezand Chamorro-Mera 2020; Berné-Manero et al. 2013].

The Good on You application allows consumers to learn about the ethical aspects of clothing production and supports sustainable development in the field of fashion. In the product rating system, the application focuses on three aspects: people, planet and animals. Bunny Free is an application that allows to check whether cosmetics or cleaning products have been tested on animals. The E-ingredients application allows to check the presence of chemical additives, dyes and regulators in food products. The application provides information on the symbols of E-type chemical ingredients, and also provides information about the origin, use and possible side effects after high consumption of food containing the additive.

Based on the results of both own studies, it was found that the declared responsibility of social behavior increased after testing mobile applications. The respondents declared that thanks to the applications they have more knowledge about companies testing their products on animals and they started to check product labels. They also indicated that their awareness of companies that deal ethically with their employees and undertake environmental protection measures has increased. The usability of mobile applications was assessed as satisfactory by the majority of respondents and they declared that they would use the tested applications in the future.

Keywords: social responsability, consumer, mobile application

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Social Media Influencers in Power: Roles of Social Trust and Endorsements

Trung Dam-Huy Thai [55]

ABSTRACT

Research Questions With the rise of online influencer marketing, social media has become an ideal venue for developing customer-brand relationships. Scholars and practitioners are increasingly focusing on the function of social media influencers (SMIs) in driving subsequent favorable behavior toward connected brands that SMIs promote. However, the mechanism of these impacts, which unveils the nature of SMI's phenomenon, is not given enough attention. This study looks into how SMIs win users' trust and endorsements on social networking sites (SNSs), which demonstrates how SMIs grow in power. The credibility of influencers is examined using a heuristic-systematic method from three aspects: the influencers' deservingness, users' perceived fit with their personal interests, and post contents that reflect involved brands' uniqueness, symbolism, and authenticity. This study indicates that when influencers are perceived as credible, their credibility is transferred to the brands with which they communicate, resulting in the induction of trust from SNS users. Because influencers and brands continue to receive endorsements from people who trust and interact, the impacts are magnified and spread. This study implies that building positively and favorably triadic relationships between the influencers, brands, and the online SNS community could be an effective tactic for bonding and bridging customers. SMI marketing could be used as a method for acquiring a competitive advantage over competitors in gaining customers. Methods This research plans to have two surveys to determine how social media influencers gain users' trust and endorsement through nine hypotheses. Respondents who use YouTube and Instagram will be polled on Amazon Mechanical Turk (MTurk) for data collection. Expected Contributions This study aims to contribute to influencer marketing by providing an insight into how SMIs are perceived as credible, win trust, and receive endorsements from SNS users. This study disrupts the conventional SMI studies by exploring the influencers' credibility from a holistic approach, reflecting the triadic relationships among the influencers, users, and endorsed brands. This study highlights the spillover effects of SMI's credibility to the brand credibility, unveiling why SMI is essential for brands to build their credibility and awareness. This study is notable for further exploring how SMI's credibility and brand credibility are diffusive and contagious in SNSs by social endorsements from people interested in the influencer and the brand, demonstrating a phenomenon in and the uniqueness of social media platforms as YouTube and Instagram. This study sends a solid message to marketing managers about effectively using three sources of SMI's credibility to build brand credibility and win customers from influencer marketing activities.

Keywords: Social Media Influencers, Deservingness, Perceived Fit with Personal Interest, Uniqueness, Symbolism, Authenticity, Influencer Credibility, Brand Credibility, Social Trust, Social Endorsement

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Research on Management Decision Analysis of small and medium-sized Enterprises based on big Data Environment

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ABSTRACT

For small and medium-sized enterprises, the accuracy of management decisions will effectively enhance the competitive advantage in the market. In the big data environment, enterprises can provide a reliable basis for management decisions by analyzing, organizing and judging, thus breaking through the limitations of analysis and judgment that existed in previous management decisions. Therefore, enterprises need to continuously improve data processing technology in the process of management decision-making to lay a solid foundation for enterprises to improve their competitiveness.

Introduction

With the rapid spread of cloud computing technology, coupled with the massive explosion of Internet of Things and mobile Internet applications, humanity has entered the era of big data. The data set of Big Data is far beyond the capability of current typical database management systems to acquire, store, manage and analyze. Research institute Gartner defines Big Data as a massive, high growth rate and diverse information asset that requires new processing models to have stronger decision-making, insight discovery and process optimization capabilities; International Data Corporation (IDC) believes that Big Data is a new generation of technology and architecture for extracting value from massive scale data; IBM defines Big Data as four V's, namely Volume IBM defines Big Data as 4 V's, namely Volume, Variety, Velocity and Value. In January 2012, the World Economic Forum in Davos took big data as one of the themes to discuss how to make better use of data to generate social benefits; in May 2012, the United Nations "Global Pulse In May 2012, the United Nations "Global Pulse" analyzed the opportunities and challenges of big data for developing countries and advocated the use of big data to promote global economic development; in March 2012, the U.S. Obama administration released the "Big Data Research and Development Initiative" to officially launch the big data development plan, followed by the United Kingdom, Canada, Australia, France, Japan and more than 30 other countries. In March 2012, the U.S. Obama administration released the "Big Data Research and Development Initiative" to officially launch the Big Data development plan, followed by the United Kingdom, Canada, Australia, France, Japan and more than 30 countries have also launched Big Data plans; Google, IBM, EMC, HP, Microsoft, Alibaba, Baidu and other domestic and foreign companies are actively seizing the Big Data technology market. Big data application areas include customer relationship management, marketing, finance and investment, human resource management, supply chain management and various industries such as health care, education, national security, food, etc. It has become an important factor affecting the development of the country, society and enterprises. In the Internet era, data-based judgment and decision-making have become

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essential skills for nations, businesses and individuals. The emergence of big data has changed the business decision-making environment and will have a huge impact on the traditional decision-making methods of enterprises.Big data technology has diverse, high-speed, and massive characteristics, and it is now common in China to apply big data in social production to enrich communication channels, social media, and so on, thereby forming the whole process of processing and generating information. Enterprises need to collect, select, and analyze big data when applying it in order to ensure whether the data information is accurate, and to provide an important basis for enterprise management decisions through a unified structure used to store data information.

1. The impact of big data on the management decision-making environment of small and medium-sized enterprises

1.1 A data-driven approach to decision making with big data

The amount of data generated by humans each year has now jumped from the TB (1024GB=1TB) level to the PB (1024TB=1PB), EB (1024PB=1EB) and even ZB (1024EB=1ZB) levels. According to the U.S. Internet Data Center, there are more than 15 billion mobile devices connected to the Internet worldwide, and the data on the Internet grows by 50% every year, doubling every two years, while more than 90% of the world's data is currently generated in recent years, with the dramatic growth of data, the era of big data has arrived. Decision-making under big data relies on a large amount of market data, and how to effectively collect and distribute data, reliably and intelligently analyze and execute data has become a challenge for enterprises in the future. The cloud-based Big Data environment affects the way enterprises collect information, make decision solutions, select and evaluate solutions and other decision implementation processes, which in turn have an impact on the management decisions of enterprises. According to Schönberg, big data is not about the absolute amount of data, but about the model used to process it: collecting as much comprehensive, complete and integrated data as possible, analyzing and modeling it using mathematical methods, and uncovering the relationships behind it. We use mathematical methods to analyze and model the data, to uncover the relationships behind it, and to predict the probability of events. Data-driven decision making is a characteristic of big data decision making. Research shows that the more data-driven a small or medium-sized enterprise is, the better its financial and operational performance. Big data is an extremely rich data set, and data is an important factor of production in the era of knowledge economy and a fundamental resource in economic operation. Data produces information, and information improves decision-making, which in turn increases productivity. It can be expected that in the future, the biggest core of deciding and evaluating enterprise value lies in data, and the amount of data accumulation, data analysis ability, and data-driven business ability will be the most important factors to determine the value of small and medium-sized enterprises.

1.2 Decision-making basis for small and medium-sized enterprises in the big data environment

In the big data environment, although the participants of management decision making in SMEs have changed the way of relying on their own working experience, intuitive analysis and theoretical basis as the main content of management decision making, the decision makers themselves are still the main factor of management decision making. First of all, from the perspective of the senior management of SMEs, the traditional management decision-making method can only be analyzed and summarized by managers' own working experience due to the lack of a large amount of data information as the basis, but in the big data environment, the management of SMEs does not need to worry about the lack of data information as the basis and thus difficult to judge, but only needs to identify and raise problems in the process of judging data information. They only need to identify and raise problems in the process of judging data information. Secondly, from the perspective of management and employees of SMEs, big data can provide an important basis for enterprise decision making and effectively improve the decision-making ability of enterprises, which requires the concerted efforts of SME managers and employees to promote the sustainable development of enterprises in the big data environment. Finally, the current way to obtain and analyze data has become more and more convenient, big data into the public view, for the simple work of small and medium enterprises can also be analyzed and decision-making, and effectively improve the efficiency of enterprises.

1.3 Current status of application of decision making methods under big data

According to the survey, through a survey of nearly 3,000 company executives, managers and data analysts in more than 30 industries in 100 countries, five recommendations were provided for companies based on the survey results, which suggested that for each opportunity, companies need to start with questions rather than data, so they should first define the questions that meet business objectives, and then identify those data that can answer the questions. A 2010 survey by The Streak Economist magazine showed that big data has become a hot topic in business management, but the application of big data is still in its infancy, and a March 2013 IBM white paper on big data research, Streak Analysis: Big Data in the Real World, shows that "big data" will bring a booming business opportunity. According to IBM, 63 percent of respondents said the analytical use of big data and information has created a competitive advantage for their organization, 47 percent said current applications are in the early planning stages, and 28 percent are developing pilot projects or have implemented two or more "big data" solutions. Leveraging big data will become a key competitive and growth base for companies. From this perspective, all companies need to leverage big data to improve their competitiveness. Management decision making in the Big Data environment is not only a technology for companies, but also a new business model and decision making approach, and companies must adapt to the new challenges of management decision making in the Big Data environment.

The impact of big data on the management decision data of small and medium-sized enterprises

The technical content and knowledge content of decision making under big data has increased dramatically, and the effective use of big data has become the key to decision making for small and medium-sized enterprises. Therefore, managing a large amount of data is a challenge, and if data cannot be found,

small and medium-sized enterprises may not collect data, and these data will be lost. The era of big data not only requires SMEs to have the ability to collect and analyze data, but also requires enterprises to have the ability to process and utilize these data.

2. Results

2.1 Data Management for Small and Medium-sized Enterprises under Big Data

In the big data environment, the data is firstly characterized by large scale, many types and diverse structures, including structured data tables and semi-structured and unstructured text, images, videos, etc.. Data need to be cleaned, extracted and integrated from multiple sources before use to ensure the quality and reliability of the data, and then a unified structure is used to store these data. The traditional database management system and data analysis means are no longer applicable, Google, Amazon, Microsoft and other companies have launched big data solutions, which requires companies to update their technology to meet the needs of big data processing; secondly, the data is generated quickly, the application scenario shifts from offline (offline) to online (online), and the demand for real-time processing emerges. Real-time data processing is a core demand of big data analysis, many small and medium-sized enterprises have discovered the role of real-time data and started to focus on real-time data flow, the timely processing and utilization of real-time data is also a major challenge for small and medium-sized enterprises; the third is the relationship between big data and other data. The value of big data comes from the information generated by the association between data fragments. The biggest shift in the era of big data is to replace causality with correlation, i.e., to know only the "what", not the "why". The value of big data is to explore the information in big data by exploring the correlation patterns between data. However, the interaction between these data is extensive, and the value density is low and fragmented, so extracting useful information from big data to support management decisions has become an urgent need for small and medium-sized enterprises.

In the big data environment, the previous methods of managing and analyzing data of SMEs are no longer compatible with the current big data era, so they need to continuously innovate concepts and technologies to meet the needs of big data technology in the current era. With the gradual breakthrough of big data technology, some enterprises focus on real-time data flow, so how enterprises can use big data technology for management and decision making is the most important issue at present. In addition, if the management and decision-making of SMEs in the big data environment want to effectively use big data technology, they need to clarify the correlation of data fragments and the value of each data, the biggest change in big data is the change of each data, so enterprises can use the correlation between data to analyze the value of data as an important basis for management decisions.

2.2 Knowledge Management for Small and Medium-sized Enterprises under Big Data

From the perspective of knowledge management, data contains knowledge, and knowledge is an important factor influencing decision making. With the development of "resource-based enterprise theory", people's understanding of the importance of intangible knowledge in the internal resources of enterprises has become

clearer and clearer, and "knowledge-based" enterprise capability theory has gradually become the core of "resource-based" enterprise capability theory. The "knowledge-based" enterprise capability theory gradually becomes the core of the "resource-based" enterprise capability theory. In the era of big data, deep mining of data can obtain richer knowledge, from which small and medium-sized enterprises can benefit greatly. According to Penrose, the size of an enterprise depends on the knowledge and management capabilities possessed by managers. With big data, companies can understand business more thoroughly and use knowledge to improve decision-making and performance. The ability to collect and analyze massive amounts of data and quickly access information that affects the future is the beauty of big data technology. In the management decision-making process, the use of data can not be replaced, but the need to combine the objective decision-making of data and human subjective decision-making. bolloju pointed out that decision makers are under pressure from more complex tasks in decision-making, relying solely on human subjective decision-making can not cope with the complex environment, but relying solely on data decision-making can also be off the actual. The U.S. government's Big Data Research and Development Initiative calls for new ways to use big data and bring together the senses, insights and decision support of decision makers, combining data and human initiative to avoid "data-only" thinking.

2.3 The impact of big data on the participants of management decisions in small and medium-sized enterprises - Variations in the roles of decision makers in SMEs under big data

Policy participants are still the most important decision-making factor in the era of big data. Big Data has changed the long-standing management decision making method that relies on experience, theory and ideas, and intuitive judgment has given way to accurate data analysis, and the role of decision makers has changed under Big Data. Firstly, for senior managers of SMEs, traditional decision-making relies on the experience of SME leaders for important decisions because of the scarcity of data, while big data can ensure that the decision is made from the problem without worrying about the lack of data or the difficulty of obtaining data, and the focus of the decision returns to the problem itself, while the task of leaders is to find and propose the right problem. Secondly, for the general managers and employees of small and medium-sized enterprises, the information needed for decision making can be easily obtained, and the decision making ability is greatly enhanced, and the decision tends to rely on the front-line employees of the enterprise. One of the biggest challenges in the era of big data is that leaders must work side-by-side with front-line employees to improve decision-making in small and medium-sized enterprises. Once again, thanks to constant media campaigns and easy access to data, the general public is becoming aware of and using Big Data, and everyone can enter the Big Data world and become a data analyst and thus participate in decision making. On the other hand, it ends the strategy theory, social media and big data shake the decision basis of traditional strategy theory proposed by Zhang Jianjian, and the decision subject is shifting from business elite to social public. In the era of Internet economy, technology is promoting inter-domain integration, industrial boundaries are blurring, and social decision making is rising. As a result, pluralistic decision-making is more prominent in the big data environment, decision makers are more widely sourced and more complex in their relationships, and full

participation becomes an important feature of decision-making in small and medium-sized enterprises under big data.

2.4 Data Analyst for Small and Medium-sized Enterprises under Big Data

Under big data, data analysts play an increasingly important role in decision making participation in small and medium-sized enterprises. Data analysts are service professionals who use statistical analysis, machine learning, distributed processing and other technologies to extract meaningful information for business from large amounts of data, communicate it to decision makers in an easy-to-understand format, and create new data usage. A survey by Tata Consultancy Services (TCS) shows that the lack of talent in the IT industry and the scarcity of qualified big data analysts is one of the top five difficulties faced by many small and medium-sized enterprises seeking to build and deploy big data systems. McKinsey predicts that in the next six years, the U.S. may lack 140,000 - 190,000 people with deep analytical positions and 1.5 million people who know how to use the appropriate tools to analyze big data to make sound decisions. This type of talent is difficult to train and requires years of training.

2.5 The impact of big data on the management decision-making organization of small and medium-sized enterprises

Big Data has led to a change in the role of SME managers and a redistribution of decision-making management power in SMEs, and this change can have a significant impact on the overall organizational structure of SMEs. One of the most critical reasons is the decentralization of decision making, centralization of decision making and distribution of power. From the perspective of decentralized and centralized decision making, it is believed that the organizational structure within the SME will be minimally affected in a predictable environment, thus forming a hierarchical decision, while in an unknown environment the SME will apply decentralized decision making to achieve the best results. In general, SMEs use IT technology as a way to enhance the level of data processing information when applying Big Data. At the same time, small and medium-sized enterprises in the big data environment will affect the organizational structure under the conditions of information transfer and knowledge distribution. Therefore, small and medium-sized enterprises need to cultivate a large number of high-quality IT talents in the process of management decision-making, so as to provide important information for enterprise statistics, data analysis, data release and data processing, so that decision makers can make correct decisions in effective information. In addition, the big data environment has an important impact on the management decision of small and medium-sized enterprises. From the perspective of decision making, the main reason for the inefficiency of decision making management of small and medium-sized enterprises is the lack of clarity in assigning decision-making authority roles. First, if SMEs have a lot of data information, it will lead to larger decision-making rights, and the rights and knowledge will be more compatible, and the corresponding organizational indicators will be accurate, so the enterprise can issue decision-making rights to every employee after applying big data, thus presenting a more advantageous flat organizational structure. Secondly, SMEs can analyze the information in the management decision by big data technology, and

effectively use the relevant knowledge technology to increase the construction of organizational structure and analysis of decision making as the key development content of the enterprise.

2.6 Management decision making organization of SMEs under big data

Full participation under big data makes the role of SME decision makers change, and the redistribution of decision making power inevitably affects SME decision making organizational structure and decision making culture. Two important factors of SME decision making organizational structure are the choice of centralized decision making, decentralized decision making and the problem of decision making power distribution. From the perspective of centralized and decentralized decision making, organization theory suggests that a predictable environment exerts less influence on the organizational process of SMEs and facilitates the formation of a centralized hierarchical decision making structure, while decentralized decision making is more effective in an unpredictable environment and when SMEs face unconventional situations. Decentralized decision-making structures may be more important in dynamically changing environments, and IT technology is often used as a means to enhance the data processing capabilities of SMEs in dynamically changing environments. In addition, the organizational structure of SMEs is also influenced by knowledge distribution, knowledge transfer cost and rights transfer cost, which corresponds to a centralized decision structure if knowledge is centrally distributed by senior leaders and a decentralized decision structure if knowledge is decentralized. The decision-making environment under big data is more complex, the decision-making timeliness is stronger, and the decision-making knowledge is more widely distributed, so decentralized decision-making becomes the main form of decision-making under big data. From the perspective of decision-making authority allocation, one of the reasons for inefficient decision-making in SMEs is that decision-making authority is not allocated to the right roles. The more information employees have and control, the greater the decision-making authority should be in theory, and the higher the matching degree of knowledge and power, the better the indicators of the organization. With the development of information technology and network technology, the traditional organizational structure represented by the "pyramid" type is replaced by the flat organizational structure of small and medium-sized enterprises with networked management, decentralized authority and reflecting human-oriented management. In the era of big data, ordinary employees also have the right to make decisions, and the trend of flat organizational structure will be more obvious, and the distribution of decision-making power should be in line with this change. Analyzing the new requirements of the big data environment on the organizational structure of management and decision making of small and medium-sized enterprises, and studying the measures of organizational structure construction under big data based on the effective use of data and the creation and absorption of knowledge are the important contents of organizational innovation of small and medium-sized enterprises under big data.

2.7 SME management decision culture under big data

The impact of big data on the management and decision-making culture of small and medium-sized enterprises is huge, and the era of big data is not "what we think, but what we know". Small and medium-sized enterprises

use big data to make decisions, the first thing is to change the thinking mode, when encountering major decisions, first data collection, analysis, and then decision making, the change of thinking of small and medium-sized enterprise managers will also improve the execution of the enterprise staff using big data to make decisions. Small and medium-sized enterprise managers to really use data to drive decision-making, based on the scale of the huge amount of data to make reasonable decisions, it takes a long analysis process, enterprise employees with big data analysis results from the front line, to overturn the intuitive judgment of senior management, will be the biggest change in the culture of enterprise management decision-making. The second is the collection, creation, sharing, transmission and incentive system of decision-making knowledge based on decision-making tasks, the establishment of a learning enterprise culture, the improvement of the ability and level of all employees' participation in decision-making under big data, and the cultivation of enterprise culture and system of decision-making based on data are the objective requirements of decision-making under big data.

2.8 Impact of big data on management decision making techniques for small and medium-sized enterprises

Big data has the characteristics of low density set value and various data types, and small and medium-sized enterprises need to search for information useful for decision management in the massive information data to effectively improve the quality of enterprise decision management. In this case, enterprises want to apply big data will increase the amount of data collection, and big data information is dynamic, extensive and complex in nature, and takes feature flow and data flow as the main expression form, and its value factors will change in the passage of time, so SMEs need to discover the data flow of knowledge as the main focus of content. In addition, the correlation information between each data fragment and value of big data plays an important role. As enterprises continue to expand the scale of data, the data structure will be more complex, and if SMEs want to make better use of big data technology for management decision, they need to continuously analyze the correlation data in big data, so as to build the main way of discovering data knowledge flow. The timely integration and timely discovery of massive information are the new technical requirements that SMEs must have in the big data environment.

2.9 Cloud-based data processing and analysis technologies

Data analysis is the core problem that needs to be solved by big data applications. Traditional data analysis techniques are limited by their ability to get answers because they cannot make full use of all data, so seeking a low-cost, highly scalable analysis platform will be an important task in the enterprise decision-making process . Cloud computing is an effective tool for managing and processing big data, providing support for data processing, management and analysis, etc. Big data is applied on this infrastructure platform provided by cloud computing. Cloud computing solves two main big data problems: first, structuring a large number of heterogeneous and essentially different data sources; and second, managing, processing and transforming these data for business intelligence (BI) and enterprise decision making. By accelerating the discovery,

organization and optimal coordination and evaluation of decision resources through cloud computing, enterprises can use cloud-based services to meet data analysis needs, improve the quality of information services in complex big data environments, and accelerate decision problem solving. For decision-making, the display and interpretation of data results are also very important, and the results can be analyzed by introducing visualization technology and presented to users in a visual way to make them more easily understood and accepted.

3. Discussion

3.1 Knowledge Discovery Techniques under Big Data

Due to features such as diverse types of big data, low value density, and possibly based on full-sample data, it is important to find out useful knowledge hidden in big data to improve the quality of users' decisions. Management decision-making in the big data environment puts forward new requirements for knowledge discovery. The massive, diverse, dynamic and value-sparse nature of big data makes the traditional result optimization and algorithm accuracy no longer suitable for the measurement standard of knowledge discovery methods under big data, nor for the traditional data mining methods based on sampling learning, and the knowledge discovery methods based on full data have become the new way of big data knowledge discovery. The value of big data is usually in the form of data streams or feature streams, and the value of data decreases continuously with the passage of time, so the dynamic knowledge discovery method oriented to stream data is an important content of knowledge discovery under big data; the value of big data comes from the association information among data fragments, and the expansion of data scale has formed complex inline relationships of data or knowledge, so it is necessary to mine the complex association information implied in big data. Establishing knowledge discovery methods for semi-structured and unstructured stored data, knowledge discovery methods for streaming data, and knowledge discovery and knowledge fusion techniques for massive information from multiple sources are new challenges for knowledge discovery technologies under big data.

3.2 Decision Support System under Big Data

Decision-making problems in the Big Data environment are exceptionally complex, and decision participants need appropriate decision support systems to assist in decision making in order to respond flexibly to changes brought about by environmental changes. Traditional decision support systems emphasize application, but their application and development are limited by a small number of people, do not support the integration of data information from other sources, and cannot utilize the resources of systems distributed elsewhere. Under big data, everyone is a decision maker, and the expert systems and management systems distributed in the network are part of the decision system. Therefore, the traditional decision support system must be changed to establish a decision making method that adapts to the full participation in the big data environment, establish an open large group decision making architecture and collaborative work model, establish a platform that promotes information communication and sharing among group members and promotes the interaction of

group decision making process, and establish a group decision making platform based on decision objectives. platform, establish the analysis and evaluation mechanism of group decentralized decision consistency based on decision objectives, and design reasonable decision conflict dissipation and aggregation methods. On this basis, combining with the cloud service platform under the existing cloud computing environment, building data resource pool, knowledge resource pool, model resource pool and method resource pool under big data; building the interface of big data decision support system based on service, integrated intelligent analysis, fast decision analysis and with autonomous decision function, and pushing mechanism of decision service for different decision levels are the requirements.

4. Conclusion

Management decision making in big data environment is not only a technology but also a new model for SMEs. Under big data, the change of management decision-making environment of SMEs has led to a great change of management decision-making data and knowledge acquisition, decision-making participants, decision-making organization and decision-making technology, which provides new ideas and ways for the innovation of management decision-making in SMEs. The research and application of big data has just started, and only by recognizing the impact of big data on management decision-making of SMEs and seizing this trend can we improve the ability of SMEs to utilize data resources in the big data environment, discover the knowledge contained in big data, and then improve the management decision-making ability and efficiency of SMEs. Big data will provide SMEs with more opportunities to improve their competitiveness and gain an edge in the fierce market competition. In the big data environment, SMEs management decision not only need to innovate data analysis, data processing, data integration and other means, but also need to continuously innovate management methods and business scale, so that enterprises can improve management efficiency and decision-making accuracy through the data information obtained, thus promoting sustainable development of enterprises.

Key words： Big Data; SME; Management Decision Making

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How Pandemic Reshapes the Beauty Sector (Ukraine in focus)

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ABSTRACT

There is no doubt that we are living in the VUCA world and try to forecast future trends. For now, we can identify several trends that will influence social life and economic activities nearest future. Undoubtedly, the COVID-19 pandemic changes the framework of modern economic development and fastens numerous processes in R&D, technologies, and other spheres of business, governance, and life. The consequences of virus spreading and lockdowns are harmful, especially in the short-term perspective (it affects private life and business but increases government debts and financial uncertainty). Nevertheless, pandemics became the catalyst for the changes (e.g., the flexible working day become a reality even for organizations and workers) and illuminated the fallibility of some assumptions (e.g., that emissions can be reduced by rejections of flyes for business and tourist purposes). Nowadays, forecasting has become more complex, but we know about the trends and development possibilities than before 2020.

According to definition, the service industry is an economy that creates services rather than tangible objects. Economists divide all economic activity into two broad categories, goods and services (Encyclopedia, 2021). The share of the service sector in the world economy has constantly increased for the last 20 years (World Bank, 2021), for the advanced economy - about 60-80%. Moreover, during the past century, the service sector expanded rapidly and has become the most significant economic sector in most developed nations. The service sector has become more important in economic development because of higher added value.

The high added value created in the sector also makes it extremely crucial in the economic after-pandemic recovery. Recovery will occur in the "next normal" situation. The next normal concept is a term coined by McKinsey institute based on the assumption that exists before and after, the period before COVID-19, and a new norm that will appear in the post-viral era: the next normal. For studying next normal, we focus on the service sector and, more precisely, the beauty industry. The choice is based on the unique combination of social and economic issues that are interconnected in this spere. The beauty industry's next normal will reflect the latest economic, financial, and technological trends and changes in our understanding of beautiful, fashionable, meaningful, and relevant.

In our research, we will focus on the beauty industry for more detailed illustration. So first, illuminate how much we spend to look good because even the transition to a predominantly online existence and wearing masks and social distancing has not reduced the pressure on consumers. Companies and manufacturers are currently looking for new offers and requirements. And we are still expected to look stylish with the haircut, toned skin, no cellulite, etc.

In general, the global market for beauty and self-care is developing very dynamically - in 2017, the world market amounted to 532.43 billion dollars. and is projected to reach 805.61 billion by 2023 (proConsulting Analitics (2020)). However, the market is currently going through difficult times; if according to research in

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2017, the average woman in the United States (because the United States is the world's largest market for beauty products) spends about $ 313 per month on their appearance, in 2021 they fell to $ 50 (Haynes C. (2017), Statista (a) (2021)).

According to statistics (Statista (a) (2021)), revenue in the beauty and personal hygiene market in Europe in 2021 will reach 121 billion dollars, and annual market growth in 2021-2025 is expected at 3.39%. The most lucrative segment is personal hygiene ($ 51.5 billion). And revenue from online sales is currently 21%.

For comparison, in Ukraine, the market is $ 1.8 million, and its expected growth is 1.22%, and revenue from online sales is only 2%. At the same time, the Picodi service team conducted a survey on Ukrainians' spending on cosmetics in 2020 and found that women spend about UAH 7,200 on cosmetics every year (Analitical review (2020)). Price, composition, and personal preferences are the main factors that guide them when choosing goods and products. At the same time, the least attention is paid to the advice of doctors, make-up artists, and public figures. In comparison, men spend UAH 3,800 a year on various means and often buy them when they run out. Brand and price play a role in choosing products for men.

Thus, one of the most relevant issues for the beauty of the personal hygiene industry remains how and why consumer habits have changed. Perhaps more importantly, manufacturers wonder whether the change in personal care practices will continue after the COVID-19 pandemic. Will a more natural look prevails even after we return to work and the policy of wearing masks is relaxed? Moreover, the questions circulating in other industries can actually be formulated as the "new normal"? We formalized the information and developed several trends.

(a) Personal hygiene and safety products become priority number one. Undoubtedly, soap has become an absolute superstar, as hand washing, along with the science of soap and surfactants, has taken on a new meaning in the daily hand since the beginning of the COVID outbreak. Handwashing remains one of the main recommendations to protect yourself. A new reality is that it reinforces the importance and reach of the personal care industry. Companies also use it for advertising and creating a positive image (for example, Avon (Forbes România (2020)) donated soap to help countries). Hand sanitizer is the best way to protect against the spread and spread of COVID, making personal care products in demand because they are practical, portable, and do not require water. For example, EO Products (Terlep S. (2020)) has announced that it is increasing the production of hand sanitizer, producing four times more than usual, and has no plans to change the price. And LVMH has begun re-equipping its fragrance manufacturing facilities (which usually produce fragrances for Dior, Givenchy, and Guerline) to produce disinfectants (Kestenbaum R. (2020)). P&G has also offered disinfectants on its B2B site for businesses and government agencies to continue protecting employees and consumers (P&G News (2020)).

(b) Care has become a leitmotif because now we care for ourselves, loved ones, and others. Consumers began to pay more attention to the responsible component of consumption and production. Animal testing of cosmetics is currently banned in Europe, but until May 1, 2021, such tests were required by Chinese law (Waite T. (2021)). However, in May, the mandatory requirements for testing imported cosmetics for general use have been abolished. It means that products that do not claim to reduce the signs of aging, skin whitening, or anti-

rash should not be tested on animals when imported into the country. Moreover, China has also approved two new non-animal cosmetic testing methods, a sign of a new global trend. As for consumption, there are all the elements of responsible consumption - the safety and naturalness of the product itself, packaging that can be recycled or reused, delivery of products with minimal use of plastic packaging, and more.

(c)The most up-to-date technologies and innovations as an opportunity to survive and grow. Digitalization is not a new trend, but COVID has turned it into a macro trend, forcing businesses to find digital solutions for almost all areas of the beauty industry, including customer engagement, marketing, product innovation, and testing. The online segment has grown thanks to the so-called "silver surfer" - the involvement of older customers who previously won the purchase in stores.

(d) The segment of online counseling and training has significantly increased. For example, Aveda has created a series of videos on Instagram, offering advice on everything from installing textured hair to styling adult haircuts - and the number of views has increased by more than 200% since its launch. The MAC Virtual Try-On tool, which allows customers to try on 200 eyeshadows and lipsticks, has seen a threefold increase in consumer engagement since the start of the lockdown. John Lewis and Charlotte Tilbury broke the Guinness World Record for the world's largest British beauty master class after 10,000 people signed up to make a brush at home inspired by 90s hairstyles (Wood Z. (2020)).

(e) The brand's authenticity is becoming increasingly important, as consumer expectations have changed - today, they are looking for natural brands with a clear purpose and a close view of important issues. Customers no longer want to hear that the product will change their lives - they prefer products that are high quality and make them feel good.

Finally, although the final answers to what the "new normal" will look like are still outstanding, the guidelines and preferences of consumers in the world of beauty are changing rapidly. The use of make-up is declining, and the possible return of consumers to pre-pandemic make-up and skincare still remains uncertain.

Keywords**:** microeconomics, macroeconomics trends, sustainable development, globalization, international business, entrepreneurship

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Plan of the binational Entity Itaipu

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This research uses the Analytical Hierarchical Process –AHP– to identify the priority objectives of the strategic plan of the binational entity Itaipu on the right bank. Seek to identify, based on the AHP model, which are the main Macro Areas and the objectives that are most important for the directors of the right bank for the period 2013: 2018. Additionally, its inquiries about the key elements for those surveyed about the Itaipu Binational Entity post 2023, where a review can be made of Annex C of the Treatment of Financial Bases and the Provision of Itaipu's Electricity Services. For the application of the AHP methodology, a structured and closed questionnaire was used, carried out between the months of August and October 2020, with an approximate duration of 15 minutes per participant and interviews through digital platforms. The main results of these objectives were like the order of the strategic plan, being the Macro Area - Stakeholders - the one that had the greatest preponderance in relation to the other two remaining areas. Likewise, with the results, not only was the weighting of the strategic objectives calculated, but the order of priority and the logic in the construction of said priority could be identified. An additional finding of this research was how in 2017 the presidents of Paraguay and Brazil included the Strategic Plan of the Binational Entity in their country agendas

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Ubiquitous Notion of Gig Work-A Trade-off between Viability & Vitality

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Introduction

The intensifying demands of corporate life, meddling boss, ineffectual workplace politics led to the emergence of independent work. Gig work is contingent, casual and non-permanent in nature. It does not follow the regular rhythms of traditional work, rather provides independence, flexibility and autonomy. Independent work hinges on flexibility (Manyika et al., 2016); autonomy (Manyika et al., 2016; Shapiro, 2018); assignment-based payment; and its temporariness (Kuhn, 2016). Manyika et al. (2016) categorised people working in gig economy into four categories viz. first set of people are fascinated by the independence offered by gig economy and that is the source of their primary income; the second set of people prefer gig work for augmenting their income and they chose this option; third set of people opt for gig work as a necessity and generating core income but would always yearned for traditional permanent job and the fourth category of persons do independent work as a necessity to supplement their income so that they can be financially better off .

Digitisation and use of smartphones paved the way for digital platforms encouraging robust participation to gig economy thereby reducing the yearning for traditional job (Stanford, 2017). Gig is becoming more popular and people's choice these days because of its essential features like flexibility, autonomy, casual nature of work with income earning capacity. The other side of the story is that with the digitisation of gig world the problem of information asymmetry leading to the problem of digital trust is also posing a big challenge for the gig world.

Theoretical underpinnings

Bibliometric analysis on the experience of working in gig economy (Kaine and Josserand, 2019) revealed that majority of research in gig economy is done mainly in three areas - conditions for gig workers, the impact of gig work and technology and gig work. Conditions of gig work revolves around the actual conditions experienced by gig workers, whereby making it a risky as calculation of income and hours is difficult and there is need for regulation. Second research area that emerged is how gig economy is impacting the emotional aspect of one's personality and the varying impact on skills and the learning capabilities of the gig workers. Thirdly the role of technology and platform intermediation in flourishing the gig economy.

Keith et al. (2019) highlighted the contradictory nature of the gig economy after surveying the Mechanical Turk (MTurk) workers. On one hand, workers appreciated the flexibility provided and on the other hand, workers earning primary income from MTurk get into the gig economy as a matter of necessity. Berger et al. (2019) studied the satisfaction level associated with gig work and concluded that people who joined Uber – a gig work after being transitioned from their permanent jobs reported increase in their income levels. Drivers preferred

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Uber over their permanent job for flexibility and the autonomy and are highly satisfied. Digital interventions opened up the new avenues of work offering flexibility and autonomy with the fright of precarious work (Lehdonvirta, 2018). The transactions carried out through digital platforms- the strangers are based on trust. Mazzella et al. (2016) dwelled upon that people use ride sharing services based on trust on only. Thus, concluding that digital trust in the digital era is of parmount importance for the success of gig economy. The existing literature explored the experiences of gig workers; with respect to health and safety requirements, the gender inequality issues, their satisfaction levels of working in gig economy with the presence of platforms and the overall professional working with special reference to food delivery apps and ride hailing services app.

Methodology

The study is descriptive in nature primarily based on secondary sources. Explanatory and descriptive content is reviewed depending upon the scope of the topic (Matthews & Ross, 2014). Research papers, reports and articles were reviewed to build up a cartel of varied notions. An attempt is made to conduct a comprehensive study representing the nature of gig economy and the opportunities and challenges posed by gig economy. The push drivers or the motivators and the pain points are also studied so that the impact of gig economy can be strengthened.

Discussion

Opportunities offered by gig work

Gig economy having supremacy of creating millions of jobs, ability to scale up the income levels, its growing traction, and its relevance in the unprecedent times of COVID made it as promising prospects for under employed or unemployed (Roy and Shrivastava, 2020). As per the World Bank Report 2019, six percent of the world's labour force worked as independent workers in gig economy. It is also predicted that gig economy would be able to generate sizeable economic output. Low-income workers across the globe look forward to gig economy as reservoir of jobs and source of livelihood (Graham et al.,2017). With the advent of digital transformation gig workers are able manage their work life balance. The flexibility, autonomy and the digitisation of gig economy enabled people especially females to work as per their convenience and can help them to discharge their personal and family responsibilities at the same time (Schmid-Druner, 2016).

Challenges associated with gig work

Although gig economy is offering wide range of work on the one hand but on the other hand precarity of work is also growing. Other than that, the well-educated youth swayed to gig work is also betrayed by the precarious nature of work (MacDonald and Giazitzoglu, 2019). The precarity and insecurity leads to stress thereby negatively impacting the job satisfaction (Umair et al., 2019). The employer employee relationship is faded under gig economy especially when a person is working simultaneously with multiple platforms (Goods et al., 2019). Various occupational health risks, psychological tension arises due to uncertainty of work and income in gig work (Bajwa et al., 2018).

Gig work is often termed as self-work or casual work, this notion excluded the gig work from the labour laws and regulations (Hawley, 2018). Algorithm management is the backbone of gig economy. It can be manipulated and misused if workers are not having proper knowledge and intellect to understand it (Jhaver et al., 2018). Platforms which are the intermediaries are sometimes act as unregulated rulers that exercise power to control the economic transactions. Digitisation of gig evolved the trust concerns for the users and the players of gig economy. Trust in sharing economy is hierarchical (Stewart, 2003; Möhlmann ,2016) and information asymmetry hampers the trust of people using the digital platforms for various transactions (Gefen and Pavlou, 2004).

Push Drivers and Pain Points

The gig economy is preferred by today's youth because of the flexibility and autonomy it offers. Flexible scheduling enables a person to manage their time and get involved in more than one activity and increase their income (Lehdonvirta, 2018). People desired to work in gig economy as a matter of choice not merely because of necessity and they report high level of satisfaction in their independent work. Non-monetary benefits like discretion for deciding the working hours and the flexibility of work are the motivators for gig workers thus increasing their happiness levels (Berger et al., 2019). Digital interventions and market demand for on demand services is fuelling the gig economy on the one end (Manyika et al.,2016) and problem of digital trust is pushing it back on the other end. The flipside of gig work is that it is not being officially accepted. Gig workers are not countable in the official labour statistics (Manyika et al.,2016). No laws are there in existence for the welfare, safety and security of the gig workers. There is also uncertainty of income and jobs in gig work as the gig workers are the independent contractors having modicum employer- employee relationship with negligible legal backing thus making it little unappealing for few.

Conclusion

Gig economy offering flexibility and autonomy opened up doors of employment and earning to even odd population i.e. females, youngsters with low educational background and the retired persons. Temporariness of gig work is also conducive for those who are either pursuing their education or occupied with some family responsibilities with avenues of earnings without any long-term contractual relationship. Contrary to it precarity of earnings, no formal laws for gig workers, complicated algorithms of platforms and digital trust cues made gig economy little vulnerable. The prospects of gig economy are bright, the only need is to keep a check and formulise a proper regulation for its success. It is imperative for the researchers to explore the untapped focal points of gig economy.

Keywords: gig economy, flexibility, autonomy, viability and vitality

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