Communicating Digital Disruption by An Online Newspaper in Thailand

Jonathan Rante Carreon[1], Wenwen Tian[2]
{carreonjrc@gmail.com[1], wenwen.tian@mail.kmutt.ac.th[2]}

Faculty of Liberal Arts, Huachiew Chalermprakiet University, Samutprakarn, Thailand[1], School of Liberal Arts, King Mongkut's University of Technology Thonburi, Bangkok, Thailand[2]

Abstract. This study investigates how digital disruption is communicated to the public by the Thailand's leading English newspaper, The Bangkok Post Online Newspaper. Informed by Carreon and Piyamat (2018), 292 news articles that were reported from 1 January 2010 to 31 December 2018 composed of 245,296 words were examined for keywords (Scott, 1997) employing a mixed method analysis, using the free corpus tool AntConc 3.5.7 (Anthony, 2018). The investigation was run by comparing words with high absolute frequencies against their frequencies in the British National Corpus (BNC) using log-likelihood (see Rayson & Garside, 2000 for details of log-likelihood uses). Any words with log-likelihood (LL) values greater than 100 were considered keywords. The resulting keywords were iteratively thematized (e.g. Krippendorff, 2013) by each of the researcher, and the degree of inter-rater agreement for accuracy and reliability in categorization is expressed as Cohen's kappa value. The analysis yielded 81 keywords composed of six themes of words relating to: (1) business and monetary issues (N=27; 33.33%), (2) digital facilities and channels (N=19; 23.46%), 3) stakeholders (N=12; 14.81%), 4) digital disruption indicators (N=11; 13.58%), (5) time and location (N=8; 9.88%), and (6) informational dimension of language (N=4; 4.94%), with the analysts' categorization having an almost perfect level of inter-rater agreement (Cohen's kappa= 0.84).

Keywords: Digital Disruption, Keyword Analysis, Newspaper Communication, Online Newspaper.

1 Introduction

The turn of the century has witnessed a shift in the medium by which information is communicated by newspaper dailies to their readers from the traditional paper-based format to online newspapers. The metamorphosis is inevitable due to massive influx of information to be published, time constraints posed by laborious paper-based preparations, and increasing cost of production but also due to recent advances in computer technology. Such radical metamorphosis to digital innovation indicates that most paper-based newspapers have been bracing for the impact of the phenomenon of digital disruption (e.g. Skog, Wimelius & Sandberg, 2018).

Generally, digital disruption is often framed as a "type of environmental turbulence induced by digital innovation that leads to the erosion of boundaries and approaches that previously served as foundations for organizing the production and capture of value" (Wimelius & Sandberg, 2018, p. 431). More succinctly, it is concerned with business-model

ICSTIAMI 2019, July 17-18, Jakarta, Indonesia

DOI 10.4108/eai.17-7-2019.2303403

innovation that enables entrants to enter markets with cheap, easy to use, but low-performing products (Christensen et al., 2015).

Most research studies conducted on digital disruption were conducted in Western countries and pivot on the impact on business (Bharadwaj et al., 2013) and how digital disruption is redefining industries (e.g. McQuivey, 2013; Bradley et al., 2015; Karimi & Walter, 2015). For instance, Bughin and Van Zeebroeck (2017) found that digitization adversely affect the profits of the traditional business operators described in two loop effects: (1) digital entrants competing with traditional business operators through disruptive practices, and (2) traditional business operators responding to disruption and creating more intense competition with each other. Through digital disruption, firms rely on web-based distribution channels (Oestreicher-Singer & Zalmanson, 2013), which may drastically increase their profit margin by reducing production costs (Rothmann et al., 2014). Moreover, there is an enhancement of new product image and value which may not be achieved using the traditional means (Pagani, 2013), and digital disruption-connectivity and the diffusion of power (e.g. Schmidt & Cohen, 2010). Despite the benefits digital disruption offers to businesses, Grover and Kohli (2013) posited that it also imposes tremendous challenges on established firms which are readily observed in cases where non-digital products and services sold by the incumbents are irresponsive to a digitized environment (Lucas & Goh, 2009; Oestreicher-Singer & Zalmanson, 2013).

In health, research studies implicating digital disruption of national electronic health records and moral orders governing the production, ownership, use of and responsibility for health records were also common arguing that disregarding these disruptions may alienate key stakeholders (e.g. Garrety, McLoughlin, Wilson, Zelle, & Martin, 2014).

Examining newspaper industries, Weber and Monge (2017) argued for the inclusion of hyperlinking as an integral component of a shift from print-based organizations to multimedia information providers from 1997 to 2007 and found that traditional newspapers which delayed or undermined hyperlinking practices may result in an increased likelihood of failure later.

In Asia, the limited research studies on digital disruption mainly analyzed its impact on running businesses such as in the music industry (e.g. Wikstrom & DeFillippi, 2016), banking industry (e.g. Tornjanski et al., 2015), managers' perception and response to digital disruption (e.g. Molla et al., 2016).

In Thailand, the few research studies on digital disruption were mainly focused on promoting security and cultural awareness (e.g. Fung et al., 2008; Hongladarom, 2016), and managing its impact (e.g. Common, 2018).

While it is quite evident that the number of research studies on digital disruption has been an increasing, these studies mainly highlighted the positive and adverse impacts of digital disruption on businesses. It was also noted that information on digital disruption and its applications came from the industries and manufacturers or from the stakeholders of these businesses with research data gathered either by interviewing or through questionnaires. Research studies examining data on digital disruption that were actually presented to readers such as via newspapers and other publications of national and international circulations were undermined and warrant investigation. Thus, information on digital disruption presented to readers is worthwhile to examine since the phenomenon has already gone far, yet it is still unknown if what was communicated to the public was enough, useful, appropriate or relevant.

2 Research Objective and Conceptual Framework

The ultimate goal of this paper is to examine digital disruption information presented to the readers by *Bangkok Post Online Newspaper*. It seeks to answer the lone research question: *What information is presented in the news articles relating to digital disruption?* To answer this research question, a corpus-based analysis examining "keyness" in text (Scott & Tribble, 2006) is employed. Keyness is "a quality that words may have in a given text or set of texts, suggesting that they are important and they reflect what the text is really about" (Scott & Tribble, 2006, pp. 55-56). They can also be defined as "words which appear in a text or corpus statistically significantly more frequently than would be expected by chance when compared to a corpus which is larger or of equal size" (Baker, Hardie & McEnery, 2006, pp. 97-98). Put another way, the corpus-based analysis of keywords includes the comparison of the unknown corpus against a comparator corpus to identify which words "occur statistically more frequently" in either of the corpora (Baker, 2006, p. 125).

Informed by this corpus-based approach to data, Carreon and Piyamat (2018) examined the contents of an online newspaper in Thailand that are related to digital technology and digital age. They reported 34 keywords classified into five categories: (1) words relating to digital technology and its applications, (2) words relating to business activities and monetary issues, (3) words relating to digital technology potential stakeholders, (4) words relating to digital technology impact, (5) words relating to location and time, and (6) words relating to informational dimension of language. Their research, however, only examined data taken from one year duration of data. We argue that this data provided some insights on digital technology and digital age, it quite limited to make stronger arguments on the phenomenon of digital disruption. Thus, from a similar thread of investigation, this current research enterprise examines diachronic data of online news articles that spans for more than eight years. Research studies that investigate keywords may shed some light on the specific content of the unknown text (e.g. news articles) and may indicate which information has been prioritized in writing this text.

3 Methodology

3.1 Data and Data Collection

Due to the scarcity of research studies examining the phenomenon of digital disruption as presented in news articles of Thai newspapers, a corpus of news articles was sought as data. Moreover, it was found that newspapers are the most common type of publications read by Thais (Statista, 2018). The authors argue that due to the advent of advanced digital and computer technology, most readers may have switched already to reading online news articles. Using the search word digital disruption 292 news articles, composed of 245,296 words, that were reported 1 January 2010 to 31 December 2018 were downloaded from the *Bangkok Post Online Newspaper*. The *Bangkok Post Online Newspaper* was chosen mainly because it is an English-written newspaper that has the highest number readers (Thongtep & Pratruangkrai, 2016). Moreover, online newspapers are one of the fastest sources of information available to public. Therefore, they seem appropriate as data source given that the point of interest in this research is digital disruption – a phenomenon linked to online activities.

3.2 Data Analysis

To identify linguistic keywords, two steps were followed using the software *AntConc 3.5.7* (Anthony, 2018): (1) computation of absolute word frequencies and (2) computation of relative word frequencies. Word with high absolute frequencies can provide some useful information about what a text is all about, but in many cases the words with the highest absolute frequencies are similar across different texts simply because these words (e.g. articles, conjunctions and prepositions) are most commonly used in English language (see Carreon & Svetanant, 2017; Carreon & Watson Todd, 2013). Thus, it is more insightful to consider the relative frequencies of words that are obtained by comparing the corpus data to a benchmark of general English language use, such as the British National Corpus (BNC), using log-likelihood (for details of log-likelihood uses, see Rayson & Garside, 2000). This comparison takes into account relations between frequency and typicality among words between two corpora (Stubbs, 2001).

Any keywords with a log-likelihood (LL) value of greater than 100 were counted as keywords. Using the concordance produced by each of these keywords as guide, they were iteratively categorized into the following six themes:

1) Words relating to business and monetary issues
2) Words relating to digital facilities and channels
3) Words relating to stakeholders
4) Words relating to digital disruption indicators
5) Words relating to time and location
6) Words relating to informational dimension of language

The first five of these categories shed light on the purposes of this study as they can be associated with types of digital technology and its influence that were chosen to be communicated to the public through online newspaper. Words relating to informational dimension of language can be understood by referring to Biber, Conrad & Reppen's (1998) informational dimension of language which depicts the authors' underlying perspectives of potential future directions of digital disruption in Thailand as well as in the world.

Then, the two researchers worked independently to categorize the keywords into these six themes. For reliability check, two researchers' categorizations of keywords were compared using Cohen's kappa. The Cohen's kappa is a statistical coefficient that represents the degree of accuracy and reliability in a statistical classification and measures inter-rater agreement by classifying items into mutually exclusive categories. The following guidelines suggested by Landis and Koch (1977) can be used to interpret the results:

Kappa Statistic	**Strength of Agreement**
< 0.00	Poor
0.00-0.20	Slight
0.21-0.40	Fair
0.41-0.60	Moderate
0.61-0.80	Substantial
0.81-1.00	Almost perfect

4 Results And Discussion

4.1 Absolute frequency analysis

Table 1 Words with the highest absolute frequencies

Words	Frequency (f)
the	13108
to	8268
and	7536
of	6273
in	5156

In Table 1, firstly, the high frequency of the articles *the* (f=13108) shows that many long running sentences were used in the data where *the* used as markers of specific references (Quirk, Greenbaum, Leech & Svartvik, 1995; cited in Nickalls, 2011). Secondly, the frequent use of the prepositions such as *to* (f=8258), *of* (f=6273), *in* (f=5156) and *for* (f=2888) function to link nouns, pronouns, or noun phrases to some other parts of the sentences. For instance, in the corpus, *to* is either used as preposition to express direction or motion or direction toward something or as a marker of an infinitive verb (e.g., *to* a bank branch, *to* change); *in* is used to indicate either unspecific times, an area or a place (e.g., *in* December, *in* 2017, *in* new technology, *in* Thailand); and *for* is used to tell about the use of something, an example, a reason or purpose (e.g., *for* example, *for* accumulative buy, *for* start-ups). The high frequency of the conjunction *and* (f=7536) in the corpus shows common use of conjoint words (e.g., connectivity *and* efficiency, users *and* transactions). The high frequency of the auxiliary verb is (f=2722) indicates that the information presented in the news is current or foreseeing the future (e.g. the new wave of digital disruption *is* about to hit the country; *is* adapting to the changing behaviour of the customers).

However, these words basically reflect how general language was used to present information about digital disruption. It is difficult to reach stronger conclusions on how some specific language were presented in the corpus. Thus, it is necessary to further investigate the relative frequencies words by comparing the absolute frequencies against frequencies in the BNC using log-likelihood. The keywords with the highest log-likelihood values are given in Table 2 below.

4.1 Relative frequency analysis

As noted by Scott (1997), the content of a particular text is reflected by linguistic keywords through their high frequency.

Table 2 Words with the highest relative and high absolute frequencies

High relative frequency words		High absolute frequency words	
will	year	the	a
digital	services	To	for
Thailand	data	and	as
business	bank	Of	said
technology	company	In	

The words with high relative frequencies or keywords are different from the most frequent words, and these keywords reflect the concerns of the Bangkok Post news more accurately. These keywords are iteratively categorized into the identified six themes: 1) words relating to business and monetary issues, 2) words relating to digital facilities and channels, 3) words relating to stakeholders, 4) words relating to digital disruption indicators, 5) words relating to time and location, 6) words relating to informational dimension of language. The reliability of these categorizations were rated to have almost perfect agreement (Cohen's kappa= 0.84) or a perfect overall inter-rater agreement of 96.30%. The highest-ranked keywords for each theme are presented in Table 3 below.

Table 3 Keywords categorized by theme (f=frequency=f; %= percentage)

Categories	f	%
Business and monetary issues	27	33.33
Digital facilities and channels	19	23.46
Stakeholders	12	14.81
Digital disruption indicators	11	13.58
Time and location	8	9.88
Informational dimension of language	4	4.94
Total	81	100

The highest-ranked keywords for each theme with examples of use are given in Table 4 below. For the sake of the space, four examples of the highest-ranked keywords are chosen to illustrating each theme.

Table 4 Keywords categorized by themes (f=Frequency=f; LL= Log-likelihood)

#	Keywords	f	LL	Examples
Business and monetary issues				
1	business	925	+2119.29	business activities, business incentives
2	bank	513	+1276.84	bank accounts, non-bank operators
3	baht	501	+5391.8	baht in investment, baht devaluations
4	industry	451	+909.58	high-tech industry, music industry
Digital facilities and channels				
1	digital	1599	+13077.64	digital access, digital age
2	technology	814	+3225.13	technology adoption, technology-enabled networks
3	services	585	+1227.11	cloud services, banking services
4	data	526	+1264.75	big data analysis, data center
Stakeholders				
1	company	505	+564.13	company plans, company strategies
2	companies	478	+1105.17	traditional companies, IT companies
3	Thai	411	+3337.02	Thai business, Thai consumers
4	customers	375	+1387.5	Thai customers, target customers
Digital disruption indicators				
1	new	962	+471.28	new business, new digital-related skills
2	need	382	+166.07	need for radical transformation, need to adapt
3	growth	339	+769.4	growth and investment, growth and innovation
4	development	335	+278.03	economic development, technological development
Time and location				
1	year	799	+566.95	last year, this year, year ahead
2	Bangkok	491	+4283.14	in Bangkok, Bangkok Bank
3	next	294	+110.6	next decades, next destinations
4	global	289	+1231.1	global level, global trend
Informational dimension of language				
1	said	2064	+2085.8	Mr. Sakorn said, said the bank analyst said
2	will	1721	+659.39	will allow, will be fully adopted to
3	says	307	+199.11	says a tech expert, Mr. Bhurit says
4	issued	303	+1059.81	issued a new strategic plan, issued an administrative plan

Table 3 and Table 4 show that among the first five themes, two themes dominated by words relating to digital technology business and monetary issues (33.33%) and words related to digital facilities and channels (23.46%). Therefore, in the collected online news articles, it is common to find words such as *business activities, business incentives, bank accounts, non-bank operators, baht in investment, baht devaluations, high-tech industry, media industry, digital access, digital age, technology adoption, technology-enabled networks, cloud services, banking services, big data analysis, data center.* These two themes displayed clear indications of the content of the news articles presented to the public.

They are followed by words relating to stakeholders (14.81%), such as *company plans, company strategies, traditional companies, IT companies, Thai business, Thai consumers, Thai customers, target customers* and digital disruption indicators (13.58%), such as *new business, new digital-related skills, need for radical transformation, need to adapt, growth and investment, growth and innovation, economic development, technological development*. These words are less frequent than the word related to the first two themes in spite of the massive impact of digital technology to end users. Thus, it can be interpreted that the online

news publishers tend to highlight information that are straightforwardly related to digital disruption rather than its applications and impact. As a result, the words relating to stakeholder and digital disruption indicators are given less importance.

Words relating to time and location (9.88%) and words relating to informational dimension of language (4.94%) show the genre of news report in terms of contexts of the news, the people involved in the news, and the future perspectives and concerns of digital disruption in Thailand, respectively. For instance, the high frequency of said (f= 2064) in the corpus reflects the unique feature of newspaper register as mostly remarks of people involved in the news were directly quoted (e.g., *Mr. Sakorn said, said the bank analyst said*).

5 Conclusion

The ultimate goal of this study is to investigate what digital disruption information is communicated to the public by *The Bangkok Post Online Newspaper*. The main findings suggested that information about digital disruption presented on the online version of *The Bangkok Post* is dominated by words relating to digital technology concerning business and monetary issues and digital facilities and channels. Less information is presented regarding stakeholders and digital disruption indicators. The main findings about digital disruption on business and monetary issues and digital facilities and channels are in line with Tornjanski's et al., (2015) finding regarding banking industry and Wikstrom & DeFillippi's (2016) results about music industry. The language use in these two themes indicates that digital disruption serves to disturb or redefine industries and business in areas of banking and industries (e.g. McQuivey, 2013; Bradley et al., 2015; Karimi & Walter, 2015). These results are also in concord with Carreon and Piyamat's (2018) findings, which have strong implications on the type of information prioritized and presented to the public. While information dissemination on the 'digitalized' businesses, facilities and channels is important, given the role of newspapers as agents of dissemination, the wide readership of online news and the public trust they enjoy, newspapers, such as the *Bangkok Post Online*, are useful channels to inform the public about indispensable information on opportunities as well as potential impacts of the phenomenon of digital disruption.

The main limitation of this research study is its limited data and focus mainly on keywords from one diachronic onset of newspaper. Future research studies on digital disruption may examine data taken from different sets of newspapers of digital disruption news in one country or from different countries for a comparative study. It is also interesting to look at the sources of information cited by the news writers. Most importantly, potential impacts to the reading public may also be investigated through surveys or interviews. We hope that this corpus-based investigation of online newspaper articles sheds some light on how digital disruption as a trendy phenomenon of social significance can be examined and understood from a corpus linguistic perspective.

References

[1]. Anthony, L., 2018. Antconc (Version 3.5.7) [Computer Software]. Tokyo, Japan: Waseda University. Available On 31 January 2019 From Http://Www.Laurenceanthony.Net/Software

[2]. Baker, P., 2006. Using Corpora In Discourse Analysis. A&C Black.

[3]. Baker, P., Hardie, A. And Mcenery, T., 2006. A Glossary Of Corpus Linguistics. Edinburgh: Edinburgh University Press.

[4]. Bharadwaj, A., El Sawy, O. A., Pavlou, P. A., And Venkatraman, N., 2013. Digital Business Strategy: Toward A Next Generation Of Insights, MIS Quarterly, 37(2), Pp. 471–482.
[5]. Biber, D., Conrad, S. And Reppen, R., 1998. Corpus Linguistics: Investigating Language Structure And Use. Cambridge University Press.
[6]. Bradley, J., Loucks, J., Macaulay, J., Noronha, A. And Wade, M., 2015. Digital Vortex: How Digital Disruption Is Redefining Industries. Global Center For Digital Business Transformation: An IMD And Cisco Initiative.
[7]. Bughin, J. And Van Zeebroeck, N., 2017. The Best Response To Digital Disruption. MIT Sloan Management Review, 58(4), Pp.80-86.
[8]. Carreon, J.R. And Svetanant, C., 2017. What Lies Underneath A Political Speech?: Critical Discourse Analysis Of Thai PM's Political Speeches Aired On The TV Programme Returning Happiness To The People. Open Linguistics, 3(1), Pp.638-655.
[9]. Carreon, J.R. And Piyamat, B., 2018. Digital Disruption: A Corpus-Based Analysis Of Keywords In The Bangkok Post Newspaper (January 2017–February 2018). In Conference Proceedings, 6th HCU International Conference, 22nd June 2018, Samutprakarn, Thailand, Pp.249-257.
[10]. Carreon, J.R. And Watson Todd, R., 2013. Conflicts Between Prioritizing Medical Care And Profit-Making For A Thai Hospital. International Journal Of Language Studies, 7(1).
[11]. Christensen C.M., Raynor M., Mcdonald R., 2015. What Is Disruptive Innovation? In: Harvard Business Review. Available: Https://Hbr.Org/2015/12/What-Is-Disruptive-Innovation. Accessed 5 February 2019.
[12]. Common, T.B., 2018. Managing Thai Television In The Digital Landscape. In Conference Proceedings 4th World Conference On Media And Mass Communication (MEDCOM 2018) (Vol. 4, Pp. 1-8).
[13]. Fung, C.C., Khera, V., Depickere, A., Tantatsanawong, P. And Boonbrahm, P., 2008, February. Raising Information Security Awareness In Digital Ecosystem With Games-A Pilot Study In Thailand. In Digital Ecosystems And Technologies, 2008. DEST 2008. 2nd IEEE International Conference On (Pp. 375-380). IEEE.
[14]. Garrety, K., Mcloughlin, I., Wilson, R., Zelle, G. And Martin, M., 2014. National Electronic Health Records And The Digital Disruption Of Moral Orders. Social Science & Medicine, 101, Pp.70-77.
[15]. Grover, V., And Kohli, R., 2013. Revealing Your Hand: Caveats In Implementing Digital Business Strategy, MIS Quarterly, 37 (2), Pp. 655–662.
[16]. Karimi, J. And Walter, Z., 2015. The Role Of Dynamic Capabilities In Responding To Digital Disruption: A Factor-Based Study Of The Newspaper Industry. Journal Of Management Information Systems, 32(1), Pp.39-81.
[17]. Krippendorff, K., 2012. Content Analysis An Introduction To Its Methodology (3rd Ed.). Thousand Oaks, CA Sage Publications.
[18]. Landis, J.R. And Koch, G.G., 1977. The Measurement Of Observer Agreement For Categorical Data. Biometrics, Pp.159-174.
[19]. Lucas, H. C., And Goh, J. M., 2009. Disruptive Technology: How Kodak Missed The Digital Photography Revolution, Journal Of Strategic Information Systems,18(1), Pp. 46–55.
[20]. Mcquivey, J., 2013. Digital Disruption: Unleashing The Next Wave Of Innovation.
[21]. Molla, A., Cooper, V. And Karpathiou, V., 2016. IT Managers' Perception And Response To Digital Disruption: An Exploratory Study. Arxiv Preprint Arxiv:1606.03534.
[22]. Nickalls, R. (2011). How Definite Are We About Articles In English: A Study Of L2 Learners' English Article Interlanguage During A University Presessional English Course. In Proceedings From The 2011 Corpus Linguistics Conference.
[23]. Oestreicher-Singer, G., And Zalmanson, L., 2013. Content Or Community? A Digital Business Strategy For Content Providers In The Social Age, MIS Quarterly, 37(2), Pp. 591–616.
[24]. Pagani, M., 2013. Digital Business Strategy And Value Creation: Framing The Dynamic Cycle Of Control Points, MIS Quarterly, 37(2), Pp. 617–632.

[25]. Rothmann, W., Wenzel, M., And Wagner, H.-T. 2014., Alternating Forms Of Lock-In: Publishing Digital News In The Path Of A Free Content Culture, Proceedings Of The 22nd European Conference On Information Systems, Tel Aviv, Israel.
[26]. Schmidt, E. And Cohen, J., 2010. The Digital Disruption-Connectivity And The Diffusion Of Power. Foreign Aff., 89, P.75.
[27]. Scott, M., 1997. PC Analysis Of Key Words—And Key Key Words. System, 25(2), Pp.233-245.
[28]. Scott, M. And Tribble, C., 2006. Textual Patterns: Key Words And Corpus Analysis In Language Education (Vol. 22). John Benjamins Publishing.
[29]. Skog, D.A., Wimelius, H. And Sandberg, J., 2018. Digital Disruption. Business & Information Systems Engineering, 60(5), Pp.431-437.
[30]. Statista, 2018. Thailand: Which Types Of Publications Do You Read? Available [Online]: Https://Www.Statista.Com/Statistics/563404/Thailand-Types-Of-Publications-Read/ On 14 March 2018.
[31]. Stubbs, M., 2001. Words And Phrases: Corpus Studies Of Lexical Semantics. Oxford: Blackwell Publishers.
[32]. Thongtep, W. & Pratruangkrai, P. (2016 Oct. 19). Newspapers Covering HM's Death Become Collector's Items". The Nation. Available [Online]: Http://Www.Nationmultimedia.Com/News/Business/Economyandtourism/30297906 On 5 February 2019
[33]. Tornjanski, V., Marinković, S., Săvoiu, G. And Čudanov, M., 2015. A Need For Research Focus Shift: Banking Industry In The Age Of Digital Disruption. Econophysics, Sociophysics & Other Multidisciplinary Sciences Journal (ESMSJ), 5(3), Pp.11-15.
[34]. Weber, M.S. And Monge, P.R., 2017. Industries In Turmoil: Driving Transformation During Periods Of Disruption. Communication Research, 44(2), Pp.147-176.
[35]. Wikström, P. And Defillippi, R. Eds., 2016. Business Innovation And Disruption In The Music Industry. Edward Elgar Publishing.
[36]. Wimelius, H. And Sandberg, J., 2018. Digital Disruption. Business & Information Systems Engineering, 60(5), Pp.431-437.

Authors' Biodata

Dr. Jonathan Rante Carreon is the Associate Dean of the Faculty of Liberal Arts and the Head of the Office of the International Relations of Huachiew Chalermprakiet University and holds PhD in Applied Linguistics and PhD in Linguistics. His research interests include, (Critical) Discourse Analysis that examines data from online sources employing Corpus Linguistics tools.

Dr. Wenwen Tian is a lecturer at King Mongkut's University of Technology Thonburi in Thailand and holds PhD in Applied Linguistics. Her main research interests are Discourse Analysis, Academic Supervision, Teacher Development, and Intercultural Communication. Over the last 19 years, she has worked as a teacher of English and a coordinator for international affairs in China, Thailand and Saudi Arabia.