

Volume 3, Issue 2, December 2021

ISSN: 2654-0746

**Alternative Communications:  
A much needed transformation**



# Journal of **EDUCATION INNOVATION** and **COMMUNICATION**

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Edited by



**COMMUNICATION INSTITUTE OF GREECE**

**Journal of Education, Innovation, and Communication (JEICOM)**

**Alternative Communications:  
A much needed transformation**

**Vol. 3, Issue 2, December 2021**

**ISSN: 2654-0746 (listed in the National Library of Greece)**

**DOI: 10.34097/jeicom-3-2-december2021**

**<https://doi.org/10.34097/jeicom-3-2-december2021>**

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## **Chief Editor's message**

We welcome you at the 2<sup>nd</sup> issue of our 3<sup>rd</sup> volume that deals with Alternative Communications in a time of needed transformation. We live in the Covid-19 era with environmental and economic challenges that surround us, and we need to adapt, transform and innovate. Alternative ways of Communication can help us navigate in our journey.

Three years ago we started this journal to provide quality research without any cost for authors and readers respectively. Now, at the end of 2021, we are proud that this journal has not only succeeded this purpose, but has largely overcome it, providing high quality papers. We would like to thank all our readers, authors and most importantly our editorial team members that have taken the time and the energy to blind review and, in this way, help authors improve their academic research and provide quality articles to the Journal of Education, Innovation, and Communication (JEICOM).

JEICOM is a fully double blind-reviewed, open-access journal, without any costs related to publication charged to the author, the reader or the institutions/universities. Additionally, the intellectual property rights of the papers always remain with the author. JEICOM's scope is to provide a free and open platform to academics, researchers, professionals, and postgraduate students to communicate and share knowledge in the form of quality empirical and theoretical research that is of high interest and for a wide range audience. Our Journal welcomes theoretical, conceptual and empirical original research papers, case studies, book reviews that demonstrate the innovative, international and dynamic spirit for the education and communication sciences, from researchers, scholars, educators, policy-makers, and practitioners in education, communication, and related fields. Articles that show scholarly depth, breadth or richness of different aspects of social pedagogy are particularly welcome.

The numerous papers presented every year during the conferences organized by the Communication Institute of Greece, enables us and our editorial board to have access to a plethora of papers submitted. Nevertheless, papers can also be submitted by scholars at any time throughout the year. The journals' submission guidelines may be accessed at <https://coming.gr/journal-of-education-innovation-and-communication-jeicom/>.

Following a rigorous double peer-reviewed process, only a selection of the papers submitted, is published twice a year. From time to time we propose some special issues, depending on the quality of papers we receive. It is important to say that for each of our journal issues, we choose to give a general title and include papers that can go under this umbrella. In this way we believe that authors and readers can benefit even more, knowing the target theme of each issue.

At this point we would like to thank, again, the authors who submitted their work to us and our editorial team members for their availability and extremely constructive comments throughout the blind review process. Their valuable hard work assists and enables the authors to provide articles of quality.

The current seventh issue is the second for 2021 (December 2021), and is entitled *Alternative Communications: A much needed transformation*.

Enjoy and inspire others,

*Dr Margarita K. Kefalaki and Dr Fotini Diamantidaki*

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**Alternative Communications:  
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**Contents**

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<b>-Alternative Communications: A much needed transformation</b>	
<i>Margarita Kefalaki &amp; Fotini Diamantidaki</i>	<b>9</b>
-----	
<b>- Social Media Effects and Self- Harm Behaviors Among Young People: Theoretical and Methodological Challenges</b>	
<i>Argyro Kefala</i>	<b>13</b>
-----	
<b>-Companion (Ro)bots: Theoretical Challenges in the study of Human-Machine Communication</b>	
<i>Iliana Depounti</i>	<b>27</b>
-----	
<b>-Political Communication on Facebook: Comparing the República Portuguesa and La Moncloa pages</b>	
<i>Priscila Minussi</i>	<b>39</b>
-----	
<b>-Applied Learning and Teaching Transformation through Project-Based Action Learning in an International Business Programme</b>	
<i>KC Chan, Jürgen Rudolph &amp; Shannon Tan</i>	<b>53</b>
-----	
<b>- News article consumption habits of Greek internet users</b>	
<i>Evangelia Avraam, Andreas Veglis &amp; Charalampos Dimoulas</i>	<b>79</b>





## Preface

### Alternative Communications: A much needed transformation

Margarita Kefalaki<sup>1</sup>  
Fotini Diamantidaki<sup>2</sup>

Our world has always been in a state of ever-ending change. As human beings, we have the power to preserve useful changes (Taylor, 2008) that should aid us improve our livelihoods and contribute to the common good (Hai *et al.*, 2021). In order to adapt to those changes and deal with a new reality (Dort *et al.*, 2020; Felepchuk & Finley, 2021) innovation is essential now more than ever, to help us overcome challenges and limitations, imposed rapidly with the arrival of COVID-19 (Islam, 2020).

Digital technologies have played an important role in this ‘transformation’, with results relating directly to the treatment of the virus and revealing a new ‘virtual’ way of living (Brem *et al.*, 2021). Nevertheless, digital technologies have also instigated a plethora of social issues and challenges, that are not always pleasant to admit; They are, however, important to research, as we seek alternatives to traditional communication, knowing that the world we live in, will never be the same again.

Our first article brings to the fore the very sensitive issue of social media and its negative effect on young people. The paper is entitled ‘*Social Media Effects and Self-Harm Behaviors Among Young People: Theoretical and Methodological Challenges*’ by Argyro Kefala, examines the effects on social media use and online behaviours that leads to self-harm. The examination of those behaviors both suicidal and non-suicidal is grounded primarily in psychological and medical research but the increase in the number of adolescents who self-harm, in the last few years, expanded research into the use of social media. The paper addresses the issue from a communication perspective. The main argument of this paper is that social media are complex interactive, multimodal and multidirectional environments and user created cultures that cannot be understood through traditional theories of media effects or simply in quantitative terms of uses and gratifications. Drawing from contemporary studies on media effects and social media affordances, this is an attempt to map the theoretical and methodological challenges in an effort to lay the ground for an enhanced understanding of social media as mediators in self-harming behaviors. A review of current studies in this field reconfirms the conditional and indirect character of media effects identifying at the same time the limitations and gaps in the examination of a complex behavior as it relates to multimodal

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“self- mass communication” (Castells, 2009) that leads to new forms of “socialized communication”.

Our second article follows on with our alternative communication perspective and brings forward an emerging discipline within the field of Artificial Intelligence (AI) and Research concerning sex (ro)bots which is very new and has been recently undertaken from various scholarships such as gender studies, post-humanist studies as well as social robotics. ‘*Sex (Ro)bots: Theoretical Challenges in the study of Human-Machine Communication*’, by Iliana Depounti. The article is a review and examines the research focus of studying sex (ro)bots from a Human-Machine Communication (HMC) perspective. It explores two possible theoretical directions and argues in support of and proposes the most appropriate for qualitative HMC researchers. The relational and post-humanist agential philosophy of Bruno Latour is compared and contrasted with the post-structuralist, hermeneutical philosophy of imagination of Cornelius Castoriadis. This article underlines how each of these theories may impact a study within the discipline of HMC, which focuses on the meaning-making processes between humans and machines (Guzman, 2018). By focusing on the epistemological and ontological underpinnings of the two thinkers and providing distinct possible research directions for each theory, the article agrees with the renewed call for qualitative researchers to ground their research to robust theoretical frameworks (Collins & Stockton, 2018). It is argued that Castoriadis’s social imaginary is an appropriate theoretical tool to critically investigate sex (ro)bots as it is compatible with HMC’s research interests and key concepts in critical AI studies. The purpose of this review article is to encourage the identification of appropriate methodological tools to address sex (ro)bot qualitative research within HMC and the exploration of unanticipated old and new theoretical frameworks.

Priscila Minussi signs the third paper of this issue, entitled ‘*Political Communication on Facebook: Comparing the República Portuguesa and La Moncloa pages*’. As social media platforms grow in popularity, political institutions have been using them for more autonomy in public communication. The article analyses the use of Facebook, the most popular social media worldwide, by República Portuguesa, the government of Portugal, and La Moncloa, the government of Spain. First, a literature review on social media use by governments is presented. Then, the results of a manual categorization of a sample of posts published throughout January 2021 are presented. The posts were categorized according to DePaula, Dincelli and Harrison’s (2018) typology of government social media communication, which consists of information provision, input seeking, online dialogue/offline interaction, and symbolic presentation. The article provides an understanding of the use of each governmental party’s Facebook posts as a communication tool.

‘*Applied learning and teaching transformations through project-based action learning in an International Business Management programme*’, by KC Chan, Jürgen Rudolph, and Shannon Tan, is the third paper for this issue. This paper expounds on applied learning and teaching transformations through project-based action learning for students’ self-awareness and effective competence development. The purpose of this paper is to track the lead author’s two-decade experience in teaching a series of International Business Management (IBM) modules at an Indonesian university, and its effects on students’ professional life trajectories

after having completed their Bachelor's studies, especially in terms of their career. The overarching research question is: *Has the students' learning during the series of IBM modules benefited them in terms of employability and becoming critical, holistic thinkers?* The paper is based on an over 13 years longitudinal action research that used a mixed-methods survey with multiple testimonials accessed via thematic content analysis. To succeed, international business management graduates have to continuously strategise, implement, and incorporate a closed-loop feedback system to track and manage individual progress with an action learning balanced scorecard. As whole-brain learners, the pursuit of knowledge must be transformed into a value-added advantage in four types of interconnected and interdependent power: a) holistic thinking, b) systems thinking, c) critical thinking and d) lateral thinking.

Evangelia Avraam, Andreas Veglis and Charalampos Dimoulas present the last paper of this issue entitled '*News article consumption habits of Greek internet users*'. The concept of different news consumption habits during a day has been well known for many decades in the broadcasting industry. News websites are also experiencing a drop in late afternoon traffic and a sharp drop in the evening hours. Furthermore, during the weekend, website traffic numbers appeared to be significantly different than the numbers during the weekdays. That resulted in the adoption of the concept of dayparting in the case of the internet. The existence of internet dayparts can have a significant impact on news websites since they can significantly determine their success. It is quite natural to assume that media organizations have adopted their publishing patterns to best satisfy the audience's consumption patterns. This paper investigates those consumption patterns by conducting an extensive web survey among university students and particularly journalism and communication students that are expected to exhibit high consumption rates. The parameters being investigated include time, weekdays and weekends, and content categories. The study identified distinct periods that exhibit specific consumption patterns. The results appear to be to some degree in agreement with findings of previous studies that reported on publishing patterns, but significant differences have also been identified. Those results can provide valuable information for the implementation of successful content publishing strategies from the media organizations.

The above research papers, coming from academics and researchers in different parts of the world (USA, Singapore, England, Spain, Greece), reveal how traditional modes of communication are changing as we transform and strive to adapt to a world in constant evolution.

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# **Social Media Effects and Self- Harm Behaviors Among Young People: Theoretical and Methodological Challenges**

**Argyro Kefala<sup>3</sup>**

## **ABSTRACT**

The pervasiveness of social media in the lives of the young has prompted a growing number of studies investigating their effects on online and offline behaviors, especially when it comes to risk or self-harm behaviors. The examination of self-harm behaviors both suicidal and non-suicidal is grounded primarily in psychological and medical research but the increase in the number of adolescents who self-harm, in the last few years, expanded research into the use of social media. While there were both positive and negative accounts of the relationship of social media use to self-harm, this paper addresses the issue from a communication perspective. The main argument of this paper is that social media are complex interactive, multimodal and multidirectional environments and user created cultures that cannot be understood through traditional theories of media effects or simply in quantitative terms of uses and gratifications. Drawing from contemporary studies on media effects and social media affordances, this is an attempt to map the theoretical and methodological challenges in an effort to lay the ground for an enhanced understanding of social media as mediators in self-harming behaviors. A review of current studies in this field reconfirms the conditional and indirect character of media effects identifying at the same time the limitations and gaps in the examination of a complex behavior as it relates to multimodal “self-mass communication” (Castells, 2009) that leads to new forms of “socialized communication”. Further research on social media affordances and their effects on the cognitive and social-emotional development of young people will provide a better analytical framework not only for the assessment of self-harm but also for using social media to mitigate negative behaviors.

**Keywords:** Self-harm, Social media, Adolescents, Media effects, Affordances

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## 1 INTRODUCTION

In recent years there have been reports showing that self-harm, involving different forms of self-injury as a way of coping with negative emotions, has become a major public health issue, affecting primarily the young. Several studies indicate that incidents of self-harm have been increasing, especially amongst girls. For example, in the UK, recent studies provided documentation of the rising rate of common mental disorders, suicide and non-suicidal self-harm among young adults (Morgan *et al*, 2017; McManus *et al*, 2019, 2020; Bould *et al*, 2019), pointing to an alarming trend. There is also growing evidence that social technologies may have a negative impact on the overall mental wellbeing of the young (Kelly *et al.*, 2019; RSPH, 2019; Shakya & Christakis, 2017).

The Royal Society for Public Health (UK) report (2017) on “Social media and young people’s mental health and wellbeing” described social media as “more addictive than cigarettes and alcohol” stressing that social media use is linked with increased rates of anxiety, depression, and poor sleep. It is interesting to note that two key recommendations of the report stress the necessity for professionals who engage with young people to have a social media training as well as the need for additional research to be carried out into the effects of social media on young people’s mental health. The pervasiveness of social media in the lives of young people has prompted a growing number of studies investigating their effects on online and offline behaviors, as social media provide new multidirectional spaces for interpersonal and intrapersonal communication, information dissemination, and community building (Valkenburg, 2017). Although there has been a long “media effects” tradition in communication studies, a literature review has shown that communication scholars have minimally engaged with research on social media and mental disorders due to the special nature and complexity of those behaviors. On the other hand, research in the medical community was conducted from a psychological perspective that has not considered key theories and concepts from the field of digital communication that might have been useful in the analysis of a multifaceted problem. Several studies have been able to shed light on negative behaviors; however, they have provided partial and often conflicting views as to the role of social media. (Livingstone *et al.*, 2018; Dyson *et al*, 2016). It needs to be said though that most researchers have stressed the need for further research recognizing the evolving and dynamic character of social media (Keles *et al*, 2019; Nesi *et al.*, 2020).

This paper argues that the study of self-harming behaviors will greatly benefit from the adoption of an interdisciplinary approach that takes into consideration the latest theories and research findings from the field of media and communication. The aim is to identify the gaps in psychological research and contribute to the discussion from a communication perspective that would address some of the conceptual and methodological challenges presented.

## 2 METHODOLOGICAL CHALLENGES IN PSYCHOLOGICAL RESEARCH

Conclusions from a major systematic review of 26 studies conducted in the period 2000-2014 (Dyson *et al.*, 2016) identified both beneficial and detrimental effects for young people who use social media to discuss and view deliberate self-harm. Researchers were also interested in exploring the therapeutic potential of online communities. Another review of 13 studies exploring the relationship of social media and depression, anxiety and psychological distress in adolescents (Keles *et al.*, 2019) found a “general correlation” between social media and mental health problems, “However, most authors noted that the observed relationship is too complex for straightforward statements. Few studies were designed to explore this complexity although some assessed the effect of mediating and moderating factors” (Keles *et al.*, p. 89).

A large-scale study based on data of 10,000 14-year olds in the UK (Kelly *et al.* 2018) offered new insights on social media use and adolescent mental health finding that poor sleep, online harassment, poor body image and low self-esteem were strongly associated with depressive symptoms. These symptoms were higher among girls who also appeared to have a higher daily use of social media as opposed to the boys. “Time spent” or “daily use” on social media appears to be a key variable investigated in several studies, although researchers acknowledge the pitfalls of measuring this variable (Riehm *et al.*, 2019).

A recent meta-analysis based on 61 eligible studies focusing on social media use and self-injurious thoughts and behaviors (Nesi *et al.* 2020) identified a range of problematic behaviors connected to the social media, such as cyber victimization, exposure to and generation of SITB-related content, addictive use, and sexting. Most studies suggested medium effects, while negative social media behaviors were associated to cyberbullying, exposure to harmful content, and excessive media use. Studies have also found positive social media effects as tools of social support through networks of friends and helping those at risk to access mental health resources (Goodyear & Armour, 2019; Lavis & Winter 2020).

Several studies are platform- specific or comparative of social media platforms, focusing primarily on the thematic analysis of different forms of content and their connection to self-harm behaviors. For example, based on the fact that pictures of non-suicidal self- injury (NSSI) such as self-cutting is frequently posted on Instagram, it was argued that social reinforcement might play a role in posting those images and policy recommendations to social media platforms to regulate their content were deemed necessary (Brown *et al.*, 2017). Following a highly publicized suicide of a young woman in the UK associated to exposure to graphic harmful social media content, there was a public outcry and a call from public health authorities to social media platforms to regulate their content and block this type of imagery (BBC, 2019).

The focus of studies on social media content is based on research suggesting that direct exposure to both suicidal behaviors and acts of self-harm through social media may increase those behaviors, especially in more vulnerable individuals. The “blue whale challenge” is a clear example of social media content that encourages teenagers and young adults to engage

in self-harm and eventually commit suicide having a “contagion” effect (Lupariello *et al.*, 2019). A study of related videos on YouTube and Twitter posts found that they may have unintentional harmful effects, but “normalizing” negative content is a real threat pointing to the importance of applying safe messaging guidelines (Khasawneh *et al.*, 2020). The potential of a copycat influence due to exposure to graphic content (Arendt, Scherr, & Romer, 2019) poses another serious concern.

It seems though that in the absence of a causal relationship and the presence of many mediating factors, when content is not explicitly related to an act of self-harm, researchers are divided on the issue. Some argue that, both intentional and accidental exposure to NSSI content on Instagram, may elicit emotional disturbance in some users, and this is statistically related to self-harm and suicidal behaviors (Arendt *et al.*, 2019). While others in an analysis of images across three social media sites found no posts that actually encouraged users to self-harm and very few posts portraying self-harm as attractive (Shanahan *et al.* 2019). Overall, most studies suggest correlations based on repeated exposure, the contagion effect, modeling and ideation, social reinforcement and normalizing effects. On the policy side, two major themes emerge as recommendations to the industry from almost all relevant studies: first, regulation of social media content linked to harmful behaviors and second, awareness and control of time spent on social media.

It appears that a good number of the limitations and gaps reported originate in theoretical and methodological challenges that are present but they have not been identified mostly due to the complexity of moderating and mediating variables at work (Valkenburg & Peter, 2016) as well as the dynamic and constantly evolving new media environments. In fact, current findings about moderate, indirect, and conditional effects of social media on self-harm agree with most findings of a large body of research in the media effects area. Problems arise when there is not a clear account of the moderating and mediating variables. Another type of challenge comes from the nature of social media networks themselves. For example, measuring “time spent” on social media in a static way may lead to inaccurate conclusions because social media offer both synchronous and a-synchronous access and one needs also to take into account the practice of “multitasking”. It seems though that even when the amount of time spent, for example more than 3 hours per day, increases the risk for mental health problems the conclusion of what needs to be done does not only refer to setting limits to daily use of social media but it extends to recommendations such as “increasing media literacy” and “redesigning social media platforms” (Riehm *et al.*, 2019), suggestions that point to a multifactorial problem and the complexity of an effective response strategy.

Similarly, an analysis based on “content” will be more accurate if one takes into consideration the specific affordances of each social media network, the audience dynamics, and the special characteristics of specific online communities based on different social variables. Content is certainly significant but it should not be treated in a static way, as it is co-created in a dynamic social media environment (Miller *et al.* 2016).



### 3 TOWARDS A SOCIAL MEDIA EFFECTS FRAMEWORK

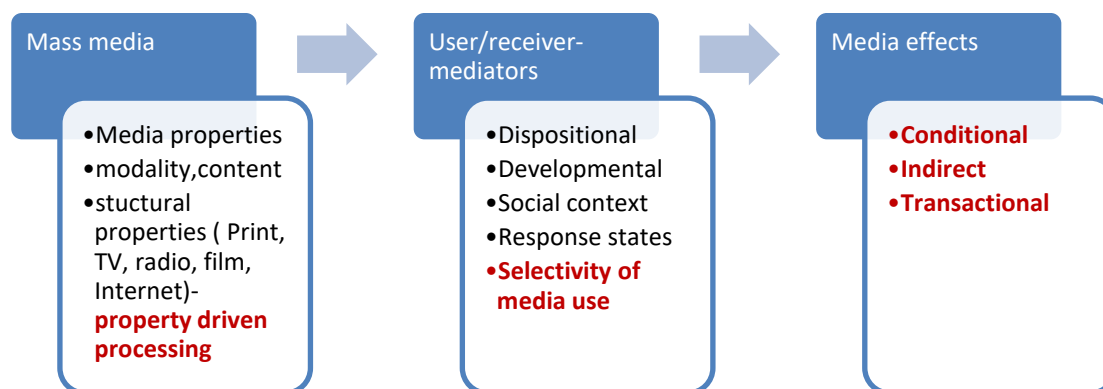
In an attempt to address those issues, psychological research of the social media impact on self-harm will benefit immensely from a long tradition of communication research on media effects, an updated non-deterministic approach on social media “affordances” and a consideration of the role of “affect” (Hipfl, 2018; Lünenborg, & Maier, 2018) in social media. Furthermore, research will benefit from a critical cultural perspective that considers wider issues on digital culture, online community building, and new identity formation through a digital networked self (Papacharisi, 2010). To this end, drawing from the work of Valkenburg (2013; 2016), Valkenburg & Peter (2013) I argue for the necessity of a “social media effects framework” which lays out the media and non-media variables at play in the media effects process incorporating at the same time the technological affordances of a dynamic and constantly evolving digital media environment.

Valkenburg & Peter (2013a) explained that dispositional, developmental, and social context factors have a key role in the media effects process in predicting media use and influencing the way in which media content is processed as they interact with specific media properties. In other words, properties of media affect how media content is processed but the effects of this property-driven processing are contingent upon specific dispositions, the developmental level, and social context factors of the media user. In proposing a Differential Susceptibility Media Effects Model, Valkenburg and Peter (2013a) created a comprehensive media-effects model that identifies the roles and relationships between media and non-media variables, which shed light into the complexity of the media effects process contingent upon mediating and moderating variables that may also account for what many studies reported as “small” or inconsistent effects.

Building on the same approach, Valkenburg *et al.* (2016), through their comprehensive systematic review of studies on media effects research, identified five key features of micro-level media effects theories in mass communication research (shown in bold) that connect the (a) media with (b) the user and (c) the types of effects which are conditional, indirect, and transactional. Taking into consideration the conditional, indirect and transactional nature of media effects a researcher will find a great variation from one young adult to another making it harder to draw general conclusions on the beneficial or harmful effects on social media on the young. This also points to the need to focus on person-specific effects (Beyens *et al.*, 2020). Consequently, based on the variables discussed above, one can examine specific groups or individuals who are at a higher risk of being affected in an effort to promote targeted prevention or intervention by the medical community.

**Table 1.**

*Framework of analysis based on Valkenburg et al. (2016)*



The analytical rigor of this model is based on the fact that the type of media effects, in our case social media linked to self-harm, are related to and/or moderated and mediated by a number of variables the researcher has to take into consideration. The three main components of the diagram examine the technological properties of the media, the dispositional, developmental and response states of the users/producers and the types of effects which most findings suggest they are conditional, indirect and transactional. Since most media effects are conditional and indirect, it can be hard to identify them unless the mediating variables can be measured. For example, in the case of self-harm it would be important to consider different response states such as cognitive, emotional, excitative, as part of the mental processes of media use which can influence message processing on the part of the user. Consequently, high response states may produce stronger and long-lasting effects which in turn may be connected to harmful behaviors.

Overall, this model allows to consider the interplay of individual, societal, and technological parameters and raise questions at both the micro and macro level. Given the indirect and conditional nature of effects, psychological research can focus on who would be the ones to study based on predispositions and clinical definitions of mental disorders and self-harming behaviors. Communication research, on the other hand, can study the phenomenon at both the technological/media level and the broader digital culture level.

If we are looking for more generalized trends affecting increasing numbers of young people, one needs to go deeper and examine the following research questions:

- the specific technological affordances of social media and to what extent and under which conditions they make harmful behaviors possible or they produce a “normalizing effect”
- the specific characteristics of online communities and their connection to harmful behaviors
- the relationship between online and offline behavior when the boundaries are increasingly blurred
- the broader socio-cultural transformation through a wide spread digital culture and the new digital/networked identities as parameters contributing to mental health issues

#### **4 A TECHNOLOGICAL AFFORDANCES FRAMEWORK**

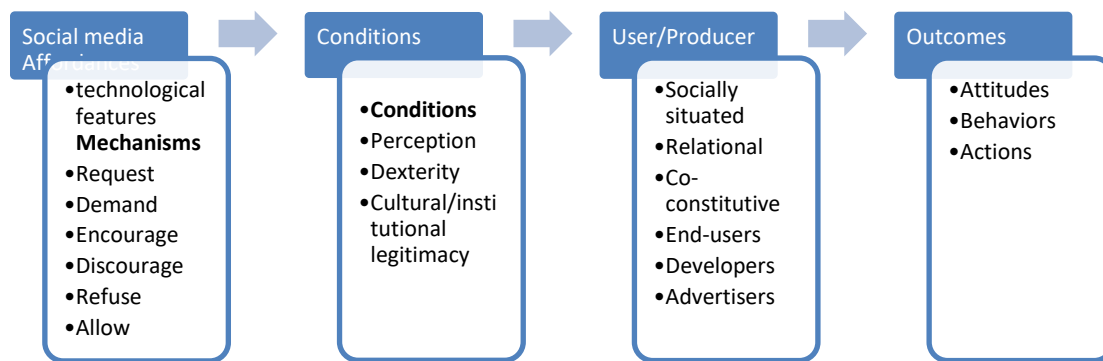
To further enhance our understanding of the function and appeal of social media, a growing body of academic literature on “technological affordances” provides additional analytical tools to consider in the effort to build a more comprehensive media effects framework for the analysis of this phenomenon. In that direction, the “Mechanisms and Conditions model” proposed by Davis (2020), will allow us to enhance our understanding of the property driven processing through an updated model of technological affordances. This model does not derive from the media effects tradition in communication research but it can certainly broaden our perspective on “how” social media affordances afford “for whom” and “under what conditions” and how this new understanding can be applied to the examination of issues related to social media effects regarding self-harm. Since “Affordances are how objects shape action for socially situated subjects” (Davis, 2020, p.6) it would be useful to learn from a Science and Technology Studies perspective where materiality and human agency are always connected. In the operationalizing framework for the analysis of affordances below (Table 2) one can see the communication process connecting all components: the mechanisms (how they afford), under what circumstances, for whom (users/audiences) and with what outcomes. Although some elements discussed here appear in the previous model, this particular approach allows for a political and normative focus to the question of social media and the link to self-harm and mental wellbeing. If mechanisms and conditions are connected to negative outcomes, one can make a stronger case for re-design and develop mitigating strategies: “Demarcating the conditions under which technical systems request, demand, encourage, discourage, refuse, and allow not only identifies the politics and values in technical systems but also lays the groundwork for intentional (re)design” (Davis, 2020, p.20).

For example, when examining user behavior in the context of a specific social media network, content is of primary importance. However, it is equally important to understand how those platforms encourage or discourage, refuse or allow as a response to user-initiated action. These technological responses matter because they can allow or deter users’ initiatives. They can also be linked to specific emotional response states, which in turn may be linked to harmful behaviors. The fact that social media dominate the emotional lives of the young points to the need for studying further the role of affect in social media, a question which is currently explored in academic research from a multidisciplinary perspective

(Sampson *et al.*, 2018). Further to that, studies (Zhao *et al.*, 2013) have identified physical, cognitive, affective, and control functions in the affordances of social media interaction. Future research may explore the role of those functions in either triggering a self-harm incident or playing a therapeutic role in providing online support to those affected. It would be very important for researchers to examine possible therapeutic affordances in serious health conditions (Merolli *et al.*, 2014) in the context of developing mitigating strategies to tackle those problems.

**Table 2.**

*The Media Effects Process based on Davis (2020) Mechanisms and Conditions Framework*



## 5 A PROPOSED FRAMEWORK INTEGRATING THE TWO MODELS

Drawing elements from both models discussed above, I propose an operationalizing framework (Table. 3) for studying the relationship between social media and self-harm that incorporates the key properties and technological affordances of social media placing them in a dynamic and multimodal context. In this table one can see the complexity of social media properties that lead to a different focus of research questions, the type of effects produced and the type of relationship to be identified. Research so far has raised questions that cover some of these variables but there are still many areas which have not been studied, indicated by a question mark. This is an effort to map areas that need to be examined utilizing analytical categories that have not been thoroughly studied. The further investigation of affective and therapeutic affordances and the types of effects they produce would enrich our knowledge on those issues (Dodemaide *et al.*, 2019). For example, taking into consideration that self-harm relates to coping with difficult or negative emotions, the examination of platform specific effects as they relate to norms expressing emotion (Waterloo *et al.*, 2018) may contribute to

this research area. Similarly, one can examine to what extent social media can provide the mechanisms to mitigate risks (Record *et al.*, 2019) or provide therapeutic affordances via peer support through social media interaction (Lavis *et al.*, 2020). Furthermore, the focus on the audience helps us define the subjects of examination based on the specific affordances of “networked publics”. As defined by boyd (2010) the four main affordances of social media “persistence, visibility, spreadability, and searchability” can alter and amplify social dynamics; they do not dictate the participants’ behavior but the environment of their engagement and participation. This typology may extend the conversation to broader cultural effects and to what extent social media may encourage/prevent self-harming behaviors beyond those subjects who are clinically defined as self-harming. In other words, extending the research from individualized effects to wider online community cultural effects.

**Table 3. Operationalizing framework for the study of social media and self-harm**

<b>TECHNOLOGICAL properties of social media</b>	Media property driven processing	Focus on	Self –harm-degree of correlation	Outcomes /Effects
<b>Content creation</b>	Dynamic construction/user created and co-created	Type of content/reception Sharing/creation	✓	Platform Effects and self-media effects
<b>Variability-Platform specific Architecture affordances</b>	Request Demand Encourage Discourage Refuse Allow	How it affords For whom	?	Platform specific effects
<b>Affective affordances Therapeutic Affordances</b>	“affective bandwidth”- affective computing, emotional design	Control, expression, management of emotions/ new definition of intimacy	?	Media design specific emotional effects
<b>Time /frequency Moment of use in relation to incident</b>	synchronous and a-synchronous multitasking	Quantity and Quality of time when	✓	Repeated exposure Effects Other effects
<b>Intrapersonal communication</b>	Self-representation, self-disclosure	Self- esteem, body image	✓	Expression effects
<b>Interpersonal communication</b>	Interactivity properties (signs, symbolic interaction)	Social comparison, peer influence	✓	Feedback effects
<b>Audience -dynamic</b>	Active engagement vs. passive	Type of interaction	?	Participation Effects

	reception			
<b>Online community</b> Support communities	Characteristics of specific online communities Synchronous/ Asynchronous Closed/open	Digital self/ new identities Narration Self- management	?	Socio- cultural effects

## **CONCLUSIONS**

This paper attempted to address some key theoretical challenges and methodological gaps in the study of the relationship between self-harming behaviors and social media use. The gaps identified stem primarily from a static view of the nature of social media platforms and the presence of multiple non-media variables at work. In raising those issues, the paper stressed the need for an interdisciplinary approach that will benefit from the latest communication research on social media, taking into consideration the role of the technological affordances and their effect as well as the dynamic interplay of mass and interpersonal communication in a multimodal environment of network publics. In that direction it is necessary to develop a dynamic social media effects framework which may address some of these gaps. Applying the proposed conceptual framework to the study of self-harm in future research will enhance our understanding of the role of social media in negative behaviors and identify ways of mitigating those risks.

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# Sex (Ro)bots: Theoretical Challenges in the study of Human-Machine Communication

Iliana Depounti<sup>4</sup>

## ABSTRACT

Research concerning sex (ro)bots is very new and has been recently undertaken from various scholarships such as gender studies, post-humanist studies as well as social robotics. This review article examines the research focus of studying sex (ro)bots from a Human-Machine Communication (HMC) perspective, explores two possible theoretical directions and argues in support of and proposes the most appropriate for qualitative HMC researchers. The relational and post-humanist agential philosophy of Bruno Latour is compared and contrasted with the post-structuralist, hermeneutical philosophy of imagination of Cornelius Castoriadis. This article underlines how each of these theories may impact a study within the discipline of HMC, which focuses on the meaning-making processes between humans and machines (Guzman, 2018). By focusing on the epistemological and ontological underpinnings of the two thinkers and providing distinct possible research directions for each theory, the article agrees with the renewed call for qualitative researchers to ground their research to robust theoretical frameworks (Collins & Stockton, 2018). It is argued that Castoriadis's social imaginary is an appropriate theoretical tool to critically investigate sex (ro)bots as it is compatible with HMC's research interests and key concepts in critical AI studies. The purpose of this review article is to encourage the identification of appropriate methodological tools to address sex (ro)bot qualitative research within HMC and the exploration of unanticipated old and new theoretical frameworks.

**Keywords:** human-machine communication, HMC, ANT, sociotechnical imaginary, sex robots

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## INTRODUCTION

Research concerning sexual and intimate relationships with robots and chatbots is new and has been undertaken from various scholarships such as social robotics (Dubé & Anctil, 2020; Koumpis & Gees, 2020), sexuality studies (McArthur & Twist, 2017; Smith & Twist, 2020) post-humanist studies (Ray, 2016; Levy, 2017), ethics (Hancock, 2020) and gender studies (Richardson, 2015; Kubes, 2019). This review article shifts the focus towards the newly formed field of scholarship established as Human-Machine Communication (HMC) (Guzman, 2018) and specifically a qualitative enquiry within HMC for the study of sex (ro)bots. The purpose of this article is to help new researchers who wish to study sex (ro)bots from the interdisciplinary field of HMC to expand their knowledge on what are some of the available theoretical tools they can apply. Thus, this article reviews two possible theoretical directions for researchers to follow when studying sex (ro)bots qualitatively and relates the main theoretical tools provided by the two approaches with HMC's main research interests.

Specifically, the relational (Schinkel, 2017) and post-humanist (Kipnis, 2017) agential philosophy of Bruno Latour is compared and contrasted with the post-structuralist (Michel, 2015), hermeneutical (Adams, 2011) philosophy of imagination by Cornelius Castoriadis. By elaborating on the epistemological and ontological underpinnings of the two thinkers and providing distinct possible research directions for each theory, the article agrees with the renewed call for qualitative researchers to ground their research to robust theoretical frameworks (Collins & Stockton, 2018). The article argues that the Castoriadian philosophy and subsequently the *social imaginary* are not only methodologically appropriate tools to critically investigate sex (ro)bots but also useful in posing questions that go beyond the ontological, moral and ethical dilemmas of sex (ro)bots commonly discussed in current literature.

Questions about the ontology of sex robots in conjunction with the human ontological boundaries as well as the ethical and moral dilemmas involved in the usage of robots as sexual partners and companions have been centerstage in related research, as it often happens when researching robot adoption across facets of everyday life (Guzman, 2020). Nonetheless, there have been additional areas of interest such as the rise of digisexuality through these technologies (McArthur & Twist, 2017), the sexual care and dignity of the disabled and elderly (Koumpis & Gees, 2020) and the perpetuation of oppressive gender stereotypes enacted in sex robot narratives (Ue, 2020). These arising areas of interest are adjacent with HMC's research agenda (Guzman, 2018) that involves the study of everyday experiences with machines, implications of the relationships with machines on the self and society, the types of relationships humans form with machines and what it means culturally to communicate and form relationships with machines. To identify the most appropriate philosophical approach through which to explore sex (ro)bots within the HMC qualitative enquiry, this article examines two different approaches which are plausible and yield different research foci. Drawing on key concepts of the two theoretical approaches such as Actor-Network Theory (ANT) (Latour and Woolgar, 1986; Latour, 1987) and the sociotechnical imaginary (Jasanoff & Kim, 2009) this paper contributes to the effort to equip

qualitative researchers with comprehensive methodological toolkits to conduct their research (Collins & Stockton, 2018).

## **BRUNO LATOUR AND ANT**

Established mainly by Bruno Latour, Actor-Network Theory (ANT) has been described mainly as an approach, a toolkit or a sensibility to sociotechnical analysis, rather than a distinct theory (Law, 2004). ANT originates from Science and Technology Studies (STS) and proposes a new kind of social theory and sociology of knowledge. As put by Lutz & Tamo (2018, p.145) ANT considers the agency of objects, concepts and ideas as well as the relationality of technology and the social. ANT's main premise is that we live in a world composed of assemblages or actor-networks of actors that are human and non-human (Latour, 2005). Actor-networks are open, transient and unique networks of associations or influences (Latour, 2005), while the word actor is only a semiotic definition (Latour, 1996) rather than implying any kind of human action or motivation (Latour, 1996). ANT has been widely interpreted and moulded to fit into different topics of research enquiry as it has also been misunderstood as a framework to study social networks (Latour, 1996). In reality, ANT's relation to networks is ontological as it seeks to rebuild social theory out of networks (Latour, 1996). Furthermore, Latour (1996) explains ANT's ontology as irreductionist and relationist – as almost providing a breathing space from social theorists to allow for an element to fully unravel through its alliances (Harman, 2009) in the network, without accounting for “tyrannical” notions such as hierarchy or micro/macro distinctions (Latour, 1996).

Latour's network-y ontology brings forward a different social theory wherein actors lack a priori order relationships, can be literally (almost) anything and exercise agency (Latour, 1996). Latour's new materialism is demonstrated in the attribution of nonhuman agency, which has been the most controversial aspect of his scholarship. To bridge the two seemingly incompatible concepts of agency with nonhuman actors, it's useful to note that ANT examines how actors (both human and nonhuman) mediate agency (Kipnis, 2015), by re-introducing agency as decoupled by intentionality, subjectivity and autonomy (Sayes, 2013). It stems from the above, that ANT essentially suggests the assemblage of networks of actors of various ontologies, variable times and spaces (Sayes, 2013). For example, the work of Akrich (1997) seeks to explore the role of technological artefacts in ANTs and specifically how innovators “inscribe” visions of the world into the technical contents of their new object. Thus, even though ANT is considered an object-oriented philosophy (Harman, 2009), we must not forget that ANT encourages us to consider humans, material objects but also social or cultural factors as actors influencing the social world (Elder-Vass, 2014) and the knowledge-making of it.

Latour believes that the binary between subjects and objects is an invention of modernity (Nimmo, 2011). He is a notorious anti-dualist thinker who seeks to dismantle the persistent binaries such as subject/object that have been structuring the social scientific discourse (Nimmo, 2011). He argues (Latour, 1993) that the dualist thinking of the divides between science and politics, and between society and nature, were laboured that way in modern

knowledge-making. He furthermore considers this a “work of purification” to disentangle the social from the natural in an attempt to avoid “cross-contamination” (Latour, 1993) in the social sciences. Besides attacking the dualist binaries of modern knowledge practices, the Latourian approach introduces the term “black box” (Latour, 1987) to describe practices, machines or organisations whose inner workings become increasingly opaque as they succeed (Latour, 1999). Expanding the black box theory, Latour urges to open the black boxes during knowledge-making to trace how processes unfold in big, black-boxed concepts such as society or class instead of assuming that they carry predetermined “truth” (Kipnis, 2015).

Latour questions the constructions through which social science knowledge-making happens and goes as far as to repudiate structure and agency while calling for the dismantling of the social in favour of distributions, connections (Elder-Vass, 2014) and heterogeneity (Latour, 1996). This approach to knowledge practices is radical and has been described as the theory of *translation* (Callon, 1984). Essentially, rejecting the positivist paradigm, ANT’s epistemology could be described as relativist (Law, 1991) and reflexive (Latour, 1996), while maintaining the excitement for empiricism as in a post-positivist exercise (Whittle, 2008). Indeed, ANT views reality as emerging out there (Cordella & Shaikh, 2006, p.17), nonetheless it is socially constructed by the humans and nonhumans of the actor-networks. Through ANT’s approach, scientific beliefs, theories, knowledge and facts are considered to be constructed by stable actor-networks assembled by external objects, routines, scientists, texts and much more (Detel, 2015). The next section focuses on how and why ANT is a plausible approach in the study of sex (ro)bots from an HMC perspective.

The works of Latour have had an extreme influence in the study of sociotechnical change and especially in the case of AI technology such as robots, bots and voice assistants. Nonhuman agency, ANT’s most controversial feature, is accepted into the ontology and epistemology of (ro)bots in HMC and even negotiated in various degrees (Neff & Nagy, 2016) since AI companions are designed to have agency (Guzman, 2018). As Latour (1996) encourages the interrogation of facts manufactured by the natural and social sciences and the artefacts designed by engineers, a range of questions arises to approach robots designed for sex and love purposes. For example, one could explore the relational agency of those robots during sexting and romantic role-play, relating to consent and robot ethics. Another question could be about how the specific technology of sex and role-play is inscribed by the developers and how it deviates from inscription during usage (Akrich, 1992). Similarly, to how Lutz & Tamo (2018) have approached health robots in HMC, a study on sex robots could benefit from ANT to map out the intimacy assemblages of AI companions comprising of actor-networks of the intimate/sex companions’ developers, end-users, the sex/romantic role-playing algorithms and pornography laws. In the actor-network of sex/love with (ro)bots, translation (Callon, 1984) would involve negotiation between different actants beyond the (ro)bot, the end-users and the manufacturers of (ro)bots, such as disabled clubs and groups, women’s advocacy groups or even the Campaign Against Sex Robots (Danaher *et al*, 2017). The latter could also be described as an *Obligatory Passage Point (OPP)* in translation (Callon, 1986) whereby its ramifications could shine a light on the responsibility of the industry when designing such technologies.

## CASTORIADIS AND THE SOCIO-TECHNICAL IMAGINARY

Described as “a paradigm-in-the-making,” (Adams *et al.*, 2015), a heterogeneous field of enquiry that assists in “reinterpreting socio-political worlds” (Adams, 2019.p. 32), the social imaginary mirrors the interdisciplinarity of HMC. Castoriadis’s philosophical approach combines psychoanalysis, anthropology and political philosophy to map out a theory that bridges the chasm between the individual and the social, through the utilisation of the concept of imagination in a twofold manner (Kli, 2018). On an individual level, there is the *radical imagination* representing the *psyche*, while on a collective level, there is the *social imaginary* of instituted significations, that corresponds to a collective creation of meaning in the sociohistorical (Kli, 2018, p.128; Castoriadis, 1987). Castoriadis’s main ontological stance views the human being as a subjectivity with the ability to constitute its essential quality, its “essence” through *auto-poiesis* or self-constitution (Castoriadis, 2001). Furthermore, the subject is shaped in the socio-historical context through the instituted significations of the social imaginary that are both interdependent and in alterity with the subject (Kli, 2018). The *auto-poiesis* of the subject through radical imagination uncovers the Castorian ontology of creation, whereby the psyche is determined by the multiplicity of *magma* (Castoriadis, 1987) and socialisation (Kli, 2018; Castoriadis, 1987). Inextricably bounded, radical imagination and social imaginary give rise to the concept of the *autonomous society* – a social condition wherein the inherited social significances have come into question and critique to allow a shift from the instituted to the instituting (Castoriadis, 1983). Overall, Castoriadis’s analysis is particularly preoccupied with the creation of meaning in an individual and collective level, as he considers the need of psyche for symbolic meaning to be drawing on the *social imaginary*, which is considered the everlasting source of the collective creation of meaning (Kli, 2018). Indeed, his approach is considered analysis of both meaning and interpretation, of culture and the symbolic (Adams, 2005), situating his work within the hermeneutical tradition.

Castoriadis’s effervescent radical politics of autonomy and the centrality of imagination in his philosophy, lead him to a damning critique of Modern epistemology. Sharing similar viewpoints with many of his peers belonging to the poststructuralist and postmodernist thought, Castoriadis focuses on critiquing the exhaustive and ordering tendencies of rational knowledge in its attempts for a self-grounding reason (Breckman, 1998). First, he believes that autonomy can only be achieved through the critique of inherited thought and second, that inherited thought obscures the imagination (Mouzakitis, 2010; Breckman, 1998). His goal to exceed inherited thought (Castoriadis, 1984) is shown in his search of a new point of view for thought- a critical examination between science and ontology (Breckman, 1998) to uncover what the history of science has to say about what simply is, how it is organised and what is its content (Castoriadis, 1984). Specifically, Castoriadis invites us to rethink ontologically the knowledge-making practices which have been prescribed by Modernism. As explained further above, for Castoriadis, sense-making comes from the imaginary significations, therefore he adapts a schema whereby the development of knowledge, science and logic is mediated by the socio-historical context (Mouzakitis, 2010).

The Castoriadian social construction of knowledge is also manifested in the conception of science as a non-cumulative process that retains the particularities of its creation and cannot be reduced to scientific manifestations (Mouzakitis, 2010). As with other critics of Modernism, Castoriadis holds a specific imaginary of Modernism – to use his terminology – which is reflected in his critique of the western conceptions of knowledge as responsible for privileging scientism and instrumentalist logic in both knowledge-making and society at large (Breckman, 1998). Modern logic, which Castoriadis calls “ensemblistic-identitary” (Castoriadis, 1997a) is asserted through the scientific ideology that comes to be Modernity’s self-understanding (Breckman, 1998). Overall, Castoriadis is critical of Modernity’s both ontological and epistemological conceptions as they unravel in the Modern scientific rationality imaginary coupled with the “central imaginary signification of capitalism” (Castoriadis, 1997b).

As demonstrated above, Castoriadis’s social theory is not inherently a social theory of technology as ANT can be. As a result, additional frameworks stemming from his scholarship should be added to aid this approach. Before that, it’s essential to note that one locates Castoriadis’s break from Marxism, among other reasons, because the latter fails to critique technology and wholly adopts technological determinism (Kli, 2018; Breckman, 1998). Instead, Castoriadis argues for a strong relationality between technology and society as he views the former as one of the imaginary significations of society (Castoriadis, 1984). As Bogiatzis (2013) aptly analyses, Castoriadis strongly opposes technological determinism and rejects neutralist approaches to technology. However, Castoriadis does not avoid essentialism all together, when he claims that we can only discuss modern technology in terms of capitalist technology (Castoriadis, 1984). By locating technology within the capitalist imaginary, Castoriadis makes a case against the capitalist “pseudo-rational” mastery of the world, which he describes as “meaningless and impossible” (Karagiannis & Wagner, 2012). In this light, it’s crucial to investigate what are the implications of the “blackboxing” of technology as mere capitalist (Bogiatzis, 2013, p.5).

Castoriadis’s philosophy inspired Jasanoff and Kim (2015) to construct the concept of the sociotechnical imaginary as an approach to study technological advancement within society. As Castoriadis (1987, in Jasanoff & Kim, 2009) explains, “imagination helps produce systems of meaning that enable collective interpretations of social reality” whereby the sociotechnical imaginary is deemed a useful framework to interrogate the underlying assumptions of the current social order (Sovacool & Hess, 2017). As defined by Jasanoff & Kim, (2009) sociotechnical imaginaries are “collectively imagined forms of social life and social order” that can be traced in nation-specific technological and/or design projects. We find the sociotechnical imaginary participating vividly in scholarship concerned with advanced sociotechnical change that expands beyond its limits from a nation-bound approach to include sociotechnical imaginaries of the smart city, AI or digital touch (Natale & Ballatore, 2017; Sadowski & Bendor, 2018; Jewitt *et al.*, 2020). Usually, sociotechnical imaginaries are instrumental and futuristic (Sovacool & Hess, 2017), portraying desirable futures, enveloping either dystopian or utopian narratives which mainly focus on materiality, meaning and morality (Jasanoff & Kim, 2015) to describe the material outcomes of the



technologies, the meaning-making behind them and their wider moral implications (Sovacool & Hess, 2017).

Both Castoriadis's broad philosophical interests and the sociotechnical imaginary as a theoretical tool have various applications to the study of sex (ro)bots. For example, one could explore what are the sociotechnical imaginaries of sex and love developed by the users of a specific (ro)bot or whether the adoption of sex (ro)bots impacts the way intimacy and sex are re-imagined for specific groups of users. In this context, sex with (ro)bots could entail granting rights to robots, which can be re-imagined through a Castoriadian approach. Castoriadis's *autopoiesis* could also be used to examine how sex (ro)bot users and/or digisexuals constitute their signification and negotiate their identity in society. Sociotechnical imaginaries involve both dystopian and utopian scenarios, through which one could sketch out the dystopian narratives circulated about sex (ro)bots or even whether the media speculations about the advent of sex (ro)bots indicate dystopian or utopian imaginaries. Furthermore, the controversiality of sex (ro)bots, native to AI technologies (Natale & Ballatore, 2017) could be further explored by following the *radical imagination* in exploring how sex (ro)bots might help re-imagine pornography through their avatars and AR functions.

## **SOCIOTECHNICAL IMAGINARIES IN THE QUALITATIVE STUDY OF SEX (RO)BOTS**

Following interdisciplinary practices that favour cross-pollination between the relative fields of HMC (Guzman, 2018) such as cultural studies, STS and critical theory, this article suggests that Castoriadis's approach and the *sociotechnical imaginaries* is most suitable to explore sex (ro)bots from an HMC angle. In the intersection of the aforementioned scholarships, we find the shared rejection of technology's neutrality and a focus on the structural powers and meanings of machines (Guzman, 2018). Despite the various calls to apply ANT in a new "laboratory" studies context for companion chatbot research (Hepp, 2020; Waldherr, 2019), the article proposes that the Castoriadian approach is more appropriate to conduct critical because it allows researchers to highlight the meaning and the power relations behind sex (ro)bots. In the next section, argumentation for adopting the Castoriadian framework to qualitative enquiry of sex (ro)bots within HMC is presented.

First, as many critiques have rightfully noted, Latour's repudiation of structure and agency (Elder-Vass, 2014) leaves little room for critical (Sovacool & Hess, 2017) and political research, as it seeks to dismantle the social and the causal effects of social structure forces (Elder-Vass, 2014). Second, Latour's general disinterest in power struggles (Sovacool & Hess, 2017) and astonishing lack of discussion of capital and power (Kipnis, 2015) could be very problematic in dealing with essential concepts in critical AI studies such as algorithmic governance, design thinking, platformisation and digital labour, to name a few. Third, as Lupton (2014, p.610) has underlined, apps and by extension (ro)bots are not mere tools but also sociocultural artefacts situated "within pre-established circuits of discourse and meaning." As a result, researchers would benefit from the imaginary approach that aims to uncover hidden ideology in language or the interpretation of sex and love with (ro)bots. Fourth, Latour's contribution to the study of agential nonhuman things in social theory is

undeniable, however, this concept is almost equally preserved in the triptych of meaning-materiality-morality in the imaginaries, without undervaluing the involvement of human structural powers. To clarify, Latour's fallacy is not the ascription of agency to things but the ascription of anthropomorphic agency to things (Kipnis, 2015), which highlights the most incongruent Latourian aspect of the research aim. Fifth, what Förster (2019) points us at, is how ANT contributes to the opacity of advanced technologies through the increased agential potency of machines. As a result, Djeffal (2019, p.277) advises not to forget to interrogate how technologies are "interwoven and used with human agency", instead of focusing on the nonhuman agency as manifested in characteristics such as automation.

## CONCLUSION

In conclusion, in this article two possible theoretical directions for the study of sex (ro)bots within the qualitative enquiry and the HMC scholarship were reviewed. Latour's *Actor-Network Theory (ANT)* and Castoriadis's *sociotechnical imaginary* examined to present a theoretical reflection that may help new HMC researchers pose critical questions about sex (ro)bots. The article argued that the Castoriadian philosophy of the *imaginary* is the most suitable to conduct qualitative HMC research on sex robots because its methodology is fitting to critical AI studies concepts and aligns with the current research agenda of HMC. By analyzing the methodological underpinnings of both Latour's and Castoriadis's theoretical frameworks and highlighting their potential implications for qualitative HMC researchers, the article responds to the call for qualitative researchers to employ robust theoretical frameworks (Collins & Stockton, 2018) and have a deep understanding of the different methodological toolkits available.

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**Political Communication on Facebook:  
Comparing the República Portuguesa and La Moncloa pages**

**Priscila Minussi<sup>5</sup>**

**ABSTRACT**

The citizens' weakened confidence in politics has encouraged political actors to establish direct communication with them. As social media platforms grow in popularity, political institutions have been using them for more autonomy in public communication. This study analyses the use of Facebook, the most popular social media worldwide, by República Portuguesa, the government of Portugal, and La Moncloa, the government of Spain. First, a literature review on social media use by governments is presented. Then, the results of a manual categorization of a sample of posts published throughout January 2021 are presented. The posts were categorized according to DePaula, Dincelli and Harrison's (2018) typology of government social media communication, which consists of information provision, input seeking, online dialogue/offline interaction, and symbolic presentation. The article provides an understanding of the use of each governmental party's Facebook posts as a communication tool.

**Keywords:** Comparative political communication, Government communication, Facebook, La Moncloa, República Portuguesa.

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## 2 INTRODUCTION

Surveys have shown the European citizen's growing scepticism towards politics: they express not only dissatisfaction with the democracies they live in (Alliance of Democracies, Rasmussen Global, & Dalia Research, 2018) but also little trust in political institutions (Ferrín-Pereira, 2012). Despite recognising the limitations and flaws of democracy, their expectations towards democratic institutions and their demands for accountability and greater political participation only increase (Coicaud, 2019).

The role and influence of the media in this apparently contradictory scenario should not be ignored. Media has failed to support an ethically and politically "authentic atmosphere of informed discussion" (Coicaud, 2019, p. 115) while it continues to influence public opinion, the political agenda, and modern political communication (Swanson, 2004). As social media use grows (European Commission, 2020a, 2020b), political institutions are attracted by the new media and the promise of more autonomy in political content creation and sharing. Through government social media communication, political actors are building a direct channel of communication with citizens and progressively resorting to professionalised political communication and marketing strategies (Negrine, *et al.*, 2007).

### 2.1 1.1 Literature review

The benefits of social media for governments include greater efficiency, accountability, and citizen involvement and trust (Picazo-Vela, Gutiérrez-Martínez, & Luna-Reyes, 2012).

On one hand, studies show that the transformation of social media strategies can lead to an increase in citizen engagement in political activism (Sandoval-Almazán & Gil-Garcia, 2014) and that interactions on social media between government and citizens do affect citizens' perception of government transparency, efficiency, and corruption (Feeney & Welch, 2016; Valle-Cruz, Sandoval-Almazan & Gil-Garcia, 2016).

On the other hand, social media has been broadly criticized not only by scholars and politicians but by society in general, especially since the Cambridge Analytica scandal in 2018.

Vaidhyathan (2018), author of *Antisocial media: How Facebook disconnects us and undermines democracy*, is one of the main critics of social media. Vaidhyathan (2018) argues that Facebook is engineered to promote content that conforms to and reinforces people's beliefs instead of content that differs from one's personal beliefs. In sum, the author explains that Facebook was not created to invigorate democratic discussion and attitudes among citizens, but to promote content that causes strong reactions on the users and to display personalised content that only reinforces one's own beliefs and opinions.

Besides, Vaidhyathan (2018) points out Facebook's focus on self-promotion and self-presentation. Since the content published on profiles and pages is carefully selected by its owners and managers, the goal is not the promotion of complex discussion and accurate



portrayal of reality. In fact, it is used mostly for presenting and promoting public figures, groups and/or organizations. Thus, Facebook is not a platform in which a real connection and citizen empowerment thrive.

Although Vaidhyanathan (2018) believes that Facebook destabilizes more than enhances deliberative politics, its potential for connecting people and governments should not be underestimated. People worldwide spend many hours a day on social media (European Commission, 2020a, 2020b), increasing the chances of people reading and watching governmental content and news on social media rather than on traditional media, such as TV or radio.

## 2.2 1.2 Theoretical framework

There is a lack of comprehensive efforts to map and systematize research on government social media. Although there is literature review in the e-government field, it tends to fall short of focusing specifically on the changes that social media brings to the communication between government and citizens (Medaglia & Zheng, 2017). The most recent literature on social media in government has predominantly focused on Web 2.0 or Government 2.0 concepts (Criado, Sandoval-Almazan & Gil-Garcia, 2013).

DePaula, Dincelli e Harrison (2018) contributed to the research on government communication on social media through the creation of a typology. It consists of four categories: information provision, input seeking, online dialogue/offline interaction, and symbolic presentation. All four categories are divided into types of communication, which are thoroughly described in Table 1.

**Table 1: Summary of definition and coding rules for each type of communication**

<b>Information provision</b>	
	<b>Public service announcements:</b> Providing recommendations for safety, public health, and well-being (e.g., “check your heat for the winter”; “eat vegetables”; “don't smoke”).
	<b>Operations &amp; events:</b> Content related to operations of the agencies, programs and/or policy, as well as event information. Must have date/ time or link to more information.
	<b>Social sharing:</b> Provision of content related to the mission of the department but not in regards to its operations or policies. Informative content that may be of interests to others (e.g., a news article about global warming from the Environmental Department).
<b>Input seeking</b>	
	<b>Citizen information:</b> Explicitly asking for feedback on a topic, participation in a survey or poll. Seeking input to help solve a crime, but where the response to input is not clear.
	<b>Fundraising:</b> Posts that refer to fundraising efforts or are

	asking for donations and contributions to a cause. Need not be directly related to the agency's mission.
<b>Online dialogue/ Offline interaction</b>	
	<b>Online dialogue:</b> Response by the department to a user comment on a department post.
	<b>Offline discussion:</b> Event to discuss particular policy issue, creating a forum for discussion, and/or invitation to the community to meet government officials.
	<b>Offline collaboration:</b> Asking individuals to become involved in a government-related activity; help carry out or volunteer for a project, program of the government department.
<b>Symbolic presentation</b>	
	<b>Favourable presentation:</b> Seeks attribution of likability, competency or worthiness. Reporting of positive activity performed by the department, with positive imagery or self-referential language of gratitude (e.g. “we have the best”; “we accomplished so much this year”).
	<b>Political positioning:</b> Taking a clear stance on a political issue (e.g., “rights of women should be supported”; “marriage equality law should be passed”).
	<b>Symbolic act:</b> Expressing congratulations, gratitude, condolences. It includes the celebration of holidays or trivia questions; references to cultural symbols (e.g. 4th of July, football game).
	<b>Branding &amp; marketing:</b> Elaborate presentation of features (e.g. in video production) of item or service, including a list of prices and/or qualities of an item with intention to attract individuals to acquire.

Source: table adapted from DePaula, Dincelli e Harrison (2018, p. 102).

Information provision is a one-way communication strategy that provides accurate public information to people (DePaula, Dincelli, & Harrison, 2018). It is usually associated with transparency. Within this category, there are three types of communication: operations & events, public service announcements, and social sharing. Operations & events consist of factual content disclosed by the government about activities, such as policy changes, program details, and event announcements. Public service announcements are messages that aim at raising public awareness about an issue or to persuade citizens to act and improve the public well-being (Shoemaker, 1989, as cited in DePaula, Dincelli, & Harrison, 2018, p. 99). Social sharing is a form of providing factual and valuable information related to the mission of the political institution but without reference to government actions (DePaula, Dincelli, & Harrison, 2018).

Input seeking is a form of requesting feedback from governments’ stakeholders and, potentially, the public at large (DePaula, Dincelli, & Harrison, 2018). This category reflects the interest on the part of the government in understanding its constituency, possibly leading to an improvement of public services. Briefly, the intention behind this category is to obtain

information from citizens. Examples include asking people to answer a survey or to make donations. Within this category, there are two types of communication: citizen information and fundraising. The former represents the request for information from citizens and the latter represents the request for donations (DePaula, Dincelli, & Harrison, 2018).

Online dialogue/offline interaction is two-way communication between governments and citizens (DePaula, Dincelli, & Harrison, 2018). Such interaction has the potential of consolidating the relationship and collaboration between both actors. It is understood as a networking strategy of social media communication (Mergel, 2013, as cited in DePaula, Dincelli, & Harrison, 2018, p. 100), in which citizens are enabled to get involved in the creation of public services through an online dialogue or offline interaction, such as offline meetings and activities of collaboration and discussion of public service. Overall, it enhances the level of participatory and direct democracy. Within this category, there are online dialogue, offline discussion, and offline collaboration. These three types of communication respectively represent dialogue in digital platforms, references to external activities of engagement and discussion, and invitations for co-creating government services (DePaula, Dincelli, & Harrison, 2018).

Symbolic presentation consists of impression management, the construction of an identity through the conveyance of symbolic content (DePaula, Dincelli, & Harrison, 2018). Within this category, there is favourable presentation, political positioning, symbolic act, and branding & marketing.

Favourable presentation refers to the government's intent to create a specific image of the organisation and influence the citizen's perception of it (DePaula, Dincelli, & Harrison, 2018). Through this approach, governments seek the attributes of likability, competency, and worthiness: likability is promoted through messages that boast about one's qualities while competency is nurtured by self-promotion, and worthiness is "sought via exemplification of certain facts" (DePaula, Dincelli, & Harrison, 2018, p. 100). Favourable presentation is a type of impression management and public relations, a way of promoting the political institution (DePaula, Dincelli, & Harrison, 2018).

Political positioning refers to the expression of political positions of political identity. DePaula, Dincelli and Harrison (2018) distinguish favourable presentation from political positioning: the first reports positive activity performed by the institution with positive imagery or the self-referential language of gratitude while the latter is a clear stance on an issue.

Symbolic act consists of expressions of congratulations, gratitude, and condolences (DePaula, Dincelli, & Harrison, 2018). For instance, the celebration of holidays or cultural symbols. It is related to the exchange of cultural references and the use of images that are not explicitly or strictly political (DePaula, Dincelli, & Harrison, 2018).

Branding & marketing is the presentation of features of an item or service in a way that attracts people into acquiring it (DePaula, Dincelli, & Harrison, 2018). It requires a development of the organizational identity and branding, and persuasive rhetoric focused on beneficial claims and sales offers. "Although the use of branding and marketing by

governments may be limited, these activities can serve many useful purposes, including attracting stakeholders to obtain a specific product or service, as well as promotion of a particular municipality itself” (DePaula, Dincelli, & Harrison, 2018, p. 101).

Similarly to Vaidhyathan’s (2018) point of view, DePaula, Dincelli and Harrison (2018) argue that a great portion of the government's use of social media is for symbolic and presentational purposes. Social media are not tools for democratic transparency and citizen participation only, but mostly “tools for self-presentation, the exchange of symbolic gestures, and the marketing of products and services” (DePaula, Dincelli, & Harrison, 2018, p. 99).

### **3 METHODOLOGY**

This study analyses the government communication on the República Portuguesa, the Portuguese national government, and La Moncloa, the Spanish national government, Facebook pages. Through an analysis of the text, visual, and audiovisual contents of the posts published between January 1<sup>st</sup>, 2021 and January 31<sup>st</sup>, 2021, the posts were manually categorized according to DePaula, Dincelli, and Harrison’s (2018) framework. Since the Spanish government published 102 posts while the Portuguese government published only 51 throughout January 2021, I created a sample of 51 randomly selected posts from La Moncloa.

Expectedly, messages can present “information beyond the denotative value of the text” (Watzlawick *et al.*, 1967, as cited in DePaula, Dincelli, & Harrison, 2018, p. 102), which means that posts are prone to being double coded, to fit into two categories or types of communication. This applies especially when analysing Facebook, a platform that allows posting texts without character limits and attaching images, videos, and links. The plurality of messages expressed in a single post led to some posts being double coded. Yet, I attempted to apply the categories as mutually exclusive as possible to prevent too many double coded posts.

An example of double coding are posts categorized as symbolic acts, which usually are a form of meta-communication that references cultural values, and as favourable presentation, which reports positive activity performed by the government. Since symbolic messages are not neutral, they tend to present a favourable image of the government as well.

Overall, this research aims to understand the communication with citizens that both governments are trying to establish through Facebook. The case study was chosen as the research method since it allows an in-depth analysis of the objects of study (Pardal & Correia, 1995). The case study is a fruitful method for social sciences research (Coutinho, 2018) and, although it does not allow a generalization of the findings, it represents a potential starting point to future research, to thorough investigations.

Quantitative and qualitative analyses were carried out. Both analyses were complimentary and represented a productive exploration of various aspects of the objects of study: regarding the qualitative analysis, a sample of Facebook posts was categorized within the DePaula, Dincelli and Harrison’s (2018) typology of government social media communication; and

regarding the quantitative analysis, the results of the categorization of the posts sample were calculated and resumed in graphics.

The research questions are:

Q1: To what extent can the sample of the Facebook posts of the República Portuguesa and La Moncloa be categorized within DePaula, Dincelli and Harrison's (2018) framework?

Q2: Which is the dominant category on each Facebook page?

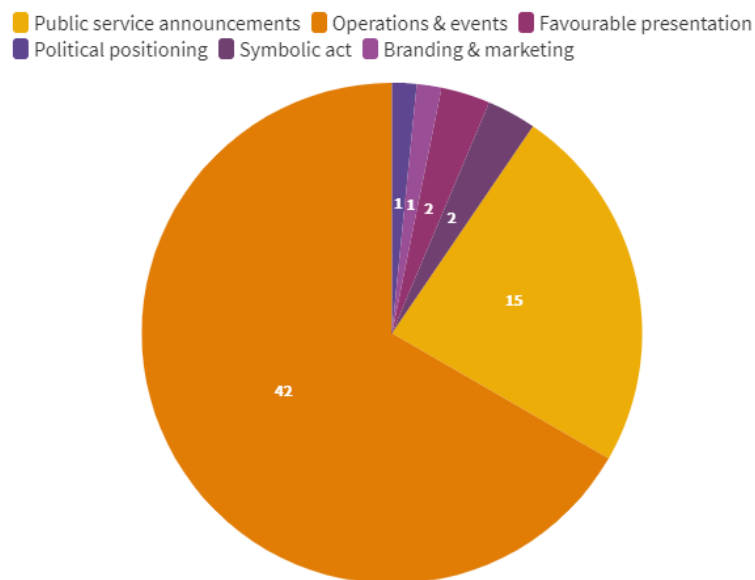
Q3: What similarities and differences can be observed across both Facebook pages?

#### 4 RESULTS

The La Moncloa Facebook page was created on January 2<sup>nd</sup>, 2012, shortly after Mariano Rajoy became the Prime Minister of Spain. Rajoy was the Prime Minister until June 2018, when Pedro Sánchez, the current Prime Minister, took office. The La Moncloa Facebook page has been used continuously since January 2012.

Graphic 1 presents the extent to which the different categories and types of posts were used by La Moncloa on Facebook throughout January 2021. A total of 102 posts were published, from which only a sample of 51 posts was analysed.

**Graphic 1: Quantity of posts across the categories of communication from the La Moncloa page**



Source: created by the author.

From the total 51 analysed posts, 49 posts (96.07%) are categorized as information provision: 42 (82.35%) are categorized as operations & events and 15 (29.41%) are categorized as public service announcements.

The posts categorised as information provision refer mostly to the Covid-19 measures, statistics, and vaccination plan in Spain. These posts have a variety of formats: ranging from live streaming of press conferences with health authorities to images and videos presenting safety recommendations. The latter always presents links to the government's website that provides more information on the coronavirus. Other posts refer mainly to Storm Filomena, a cyclone that hit Spain in early January 2021 and caused unusually heavy snowfall, and to updates on national public policies.

From this same sample, 4 posts (7.84%) are categorized as symbolic presentation: 2 (3.92%) posts are categorized as favourable presentation, 2 (3.92%) are categorized as symbolic act, 1 (1.96%) post is categorized as political positioning, and 1 (1.96%) post is categorized as branding & marketing.

No posts are categorised as input seeking neither as online dialogue/offline interaction.

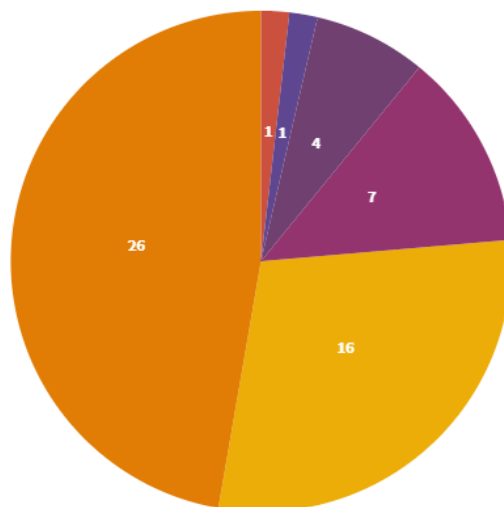
A total of 12 posts are double coded: 8 posts are double coded as operations & events and public service announcements; 1 post is double coded as symbolic act and public service announcements; 1 is doubled coded as favourable presentation and operations & events; and 2 posts are double coded as symbolic presentation and information provision. Therefore, percentages exceed 100%.

The República Portuguesa Facebook page was created on March 26<sup>th</sup>, 2020 and has been updated since then.

Graphic 2 presents the extent to which the different categories and types of communication were used by the República Portuguesa on Facebook throughout January 2021, when a total of 51 posts were published.

**Graphic 2: Quantity of posts across the categories of communication from the República Portuguesa page**

Public service announcements   Operations & events   Social sharing  
 Favourable presentation   Political positioning   Symbolic act



Source: created by the author.

From the total posts, 41 posts (80.39%) are categorized as information provision: 26 (50.98%) are categorized as operations & events, 16 (31.37%) are categorized as public service announcements and 1 (1.96%) is categorized as social sharing.

The posts categorised as information provision refer mostly to the Covid-19 measures, statistics, and vaccination plan in Portugal. These posts have a variety of formats: ranging from live streaming of press conferences with health authorities to images and videos presenting safety recommendations. Most of these posts do not present a link to the official website for more information on the coronavirus. Many posts refer to the Portuguese presidency of the Council of the European Union, which runs from January 1<sup>st</sup> to June 30<sup>th</sup>, 2021, and are categorised as information provision and/or symbolic presentation. At last, a few posts were dedicated to public policies and the Portuguese presidential election, held on January 24th, 2021.

From the total posts, 11 (21.56%) posts are categorized as symbolic presentation: 7 (13.72%) posts are categorized as favourable presentation, 4 (7.84%) posts are categorized as symbolic act and 1 (1.96%) post is categorized as political positioning.

The posts categorised as symbolic presentation refer to a variety of topics: the Covid-19 vaccine, Portuguese presidency of the Council of the European Union, grief for the death of a Fado<sup>6</sup> singer and the International Holocaust Remembrance Day.

No posts are categorised as input seeking neither as online dialogue/offline interaction.

A total of 4 posts are double coded: 1 post is double coded as operations & events and favourable presentation, which means it is also double coded as information provision and symbolic presentation; 1 post is double coded as symbolic act and favourable presentation, 1 post is double coded as operations & events and public service announcement, and 1 post is double coded as operations & events and social sharing. Therefore, percentages exceed 100%.

#### **4.1 Discussion**

All 102 analysed posts fit DePaula, Dincelli and Harrison's (2018) typology.

It was found that most posts present information about government operations, policies and, especially, information on the Covid-19 pandemic. This result reflects previous findings that government use of social media is mostly for information provision purposes (DePaula, Dincelli, & Harrison, 2018; Golbeck, Grimes, & Rogers, 2010; Mergel, 2013; Zheng & Zheng, 2014).

Consistently with DePaula, Dincelli and Harrison's (2018) and Vaidhyanathan's (2018) research, the results enhance the idea that Facebook is less a tool of collaboration and interaction than a tool for self-presentation and symbolic acts.

Notwithstanding the disparity in the average of published posts per day, the proportional use of types of communication are somehow similar between both Facebook pages: information

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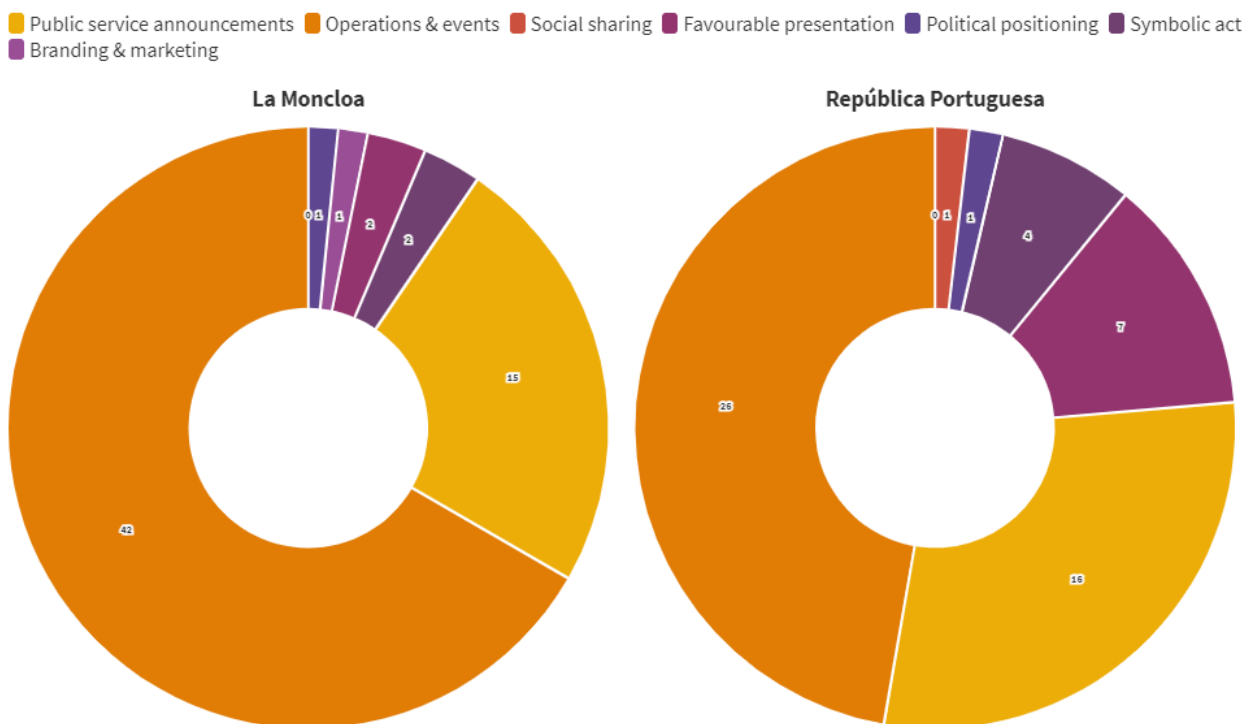
<sup>6</sup> Fado is Portugal's most famous music genre.

provision is the most used type of communication while symbolic presentation is the second one. None of the pages published input seeking neither online dialogue/offline interaction posts.

As for the categories, the similarities linger: operations & events is the most used category, followed by public service announcements. Social sharing, favourable presentation, political positioning, and symbolic act represent together less than 25% of the analysed posts from both pages.

Yet, it was observed that the República Portuguesa had many more symbolic acts posts (21.56%) than La Moncloa (7.84%). Figure 1 contrast the results from the analysis of both pages.

**Figure 1: Quantity of posts across the categories on the Spanish and Portuguese pages**



Source: created by the author.



## **5 CONCLUSIONS**

Understandably, the findings of this research cannot be generalised or applied to other objects of study. Still, the findings support Vaidhyathan's (2018) and DePaula, Dincelli and Harrison's (2018) perspectives that social media, particularly Facebook, do not foster a true connection between citizens and politics. It is acknowledged that the coronavirus situation in Portugal and Spain in early 2021 might have influenced the quantity of posts dedicated to providing information to citizens through social media. Yet, Facebook seems to be less used for deliberative politics and more for self-presentation and self-promotion purposes.

It is believed that the investigation carried out in this thesis contributes to the development of the government's use of social media research. Considering the increasing limitations Facebook imposes on the collection of data, this research presented constructive frameworks based on previous research for Facebook pages analysis. Although it is acknowledged that Facebook constantly changes its features, the frameworks resumed in this thesis could be used and adapted for further research.

The limitations of this study include the impossibility of accessing and gathering a large amount of Facebook data and posts as well as accessing the Facebook analytics tool, which is only available to the managers of the pages. Since the Cambridge Analytica scandal in 2018, Facebook announced stronger surveillance of applications that collect information on the platform, such as Netvizz – a widely known tool used in previous investigations (Bastos & Walker, 2018). Therefore, it was not possible to conduct an automated analysis neither to access the analytics data of the República Portuguesa and La Moncloa pages.

Overall, this thesis represents a contribution to the comparative political communication research field. Since comparative political communication is connected to cultural comparison, its value lies in the fact that one observation alone has no meaning unless it is compared with other observations (Pfetsch & Esser, 2004). Therefore, the results of this investigation are potentially useful for further comparative studies of different objects of study.

## **6 ACKNOWLEDGMENTS**

I would like to thank Nuno Moutinho, Professor at the University of Porto, whose help was indispensable for carrying out this research.

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# **Applied learning and teaching transformations through project-based action learning in an International Business Management programme**

Chan KC<sup>7</sup>, Rudolph J. <sup>8</sup>, Tan S. <sup>9</sup>,

## **ABSTRACT**

This paper expounds on applied learning and teaching transformations through project-based action learning for students' self-awareness and effective competence development. After providing some background to the Indonesian university where the research took place and a brief review of the literature, we describe the methodology. The article is based on longitudinal action research over 13 years that used a mixed-methods survey that generated multiple testimonials that were assessed via thematic content analysis. Six phases of learning innovations are discerned: Awareness, alignment, action, adoption, assurance and anticipation. These phases of the transformational process also provide the structure for the findings and discussion section. To succeed, international business management graduates have to continuously strategise, implement, and incorporate a closed-loop feedback system to track and manage individual progress with an action learning balanced scorecard. As whole-brain learners, the pursuit of knowledge must be transformed into a value-added advantage in four types of interconnected and interdependent power.

**Keywords:** accelerated learning, action learning, case study, Indonesia, innovation, project management, strategy implementation, transformation, whole-brain learners.

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## 1 INTRODUCTION

This paper expounds on applied learning and teaching transformations through project-based action learning for students' self-awareness and effective competence development. The purpose of this paper is to track the lead author's two-decade experience in teaching a series of International Business Management (IBM) modules at an Indonesian university, and its effects on students' professional life trajectories after having completed their Bachelor's studies, especially in terms of their career. The overarching research question is:

*Has the students' learning during the series of IBM modules benefited them in terms of employability and becoming critical, holistic thinkers?*

After a brief literature review and the provision of some background information, the research methodology is described. The longitudinal action research incorporated a mixed-methods research survey and a thematic content analysis of graduate testimonials.

At present, higher education (HE) is undergoing rapid transformation due to Covid-19 (Crawford *et al.*, 2020, Bonk *et al.*, 2020; Butler-Henderson *et al.*, 2020, 2021) as well as dealing with internationalization (De Wit *et al.*, 2015), the "data revolution" (von Hippel & Hofflinger, 2021), and the pursuit of a fairer higher education sector. Within this fast-changing macro-environmental context, there is a clear rationale and background for the use of project-based learning in higher education. Nieto-Rodriguez (2016) espoused that projects are key to optimise applied teaching and learning. The findings and discussion section is structured according to the project-based action learning paradigm and the six phases of the transformation process using a private university in Surabaya, Indonesia, as a test-bed for more than a decade (from 2006 to 2018). The six phases are awareness, alignment, action, adoption, assurance and anticipation. These phases of the transformational process also provide the structure for this article which is based on longitudinal action research (that includes a survey and the thematic content analysis of testimonials). To succeed, international business management graduates have to continuously strategise, implement, and incorporate a closed-loop feedback system to track and manage individual progress with an action learning balanced scorecard. As whole-brain learners, the pursuit of knowledge must be transformed into a value-added advantage in four types of interconnected and interdependent power.

## 1.1 Background and brief literature review

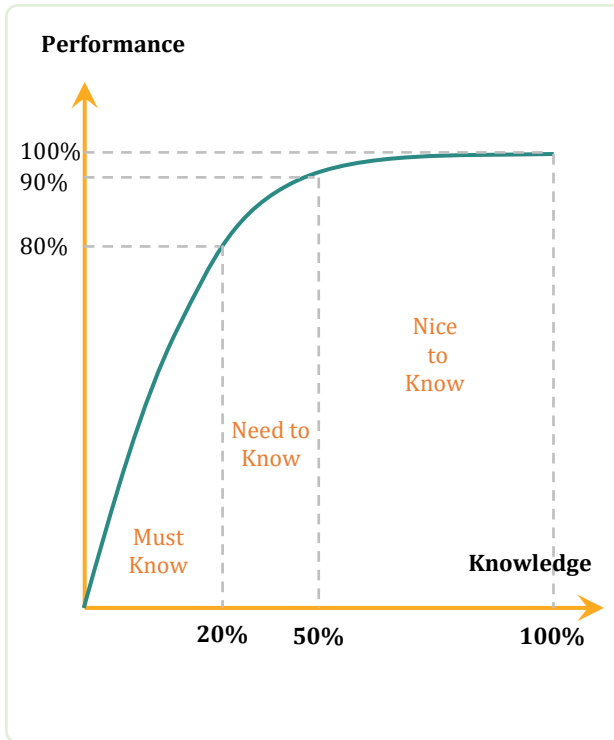
Before describing the process that students go through during their International Business Management studies at Universitas Kristen Petra (Petra Christian University, henceforth abbreviated as Petra), it is critical that we understand the university context. Knowledge about a specific context enables the potential transferability of insights to other university contexts (Slevin & Sines, 1999). Hence, a brief introduction to Petra is in order.

Petra was founded in 1961 by Perhimpunan Pendidikan dan Pengajaran Kristen Petra (PPPK Petra), an Indonesian Christian educational foundation. It is the non-profit private university's vision to be a "caring and global university" committed to Protestant values (Top Universities, 2021). Petra is amongst the oldest and largest private Christian universities in Indonesia, situated in Surabaya, East Java, Indonesia. At present, it is a medium-sized university with an approximate annual enrolment ranging from 7,000 to 10,000 students and eight faculties (uniRank, 2021, UK Petra, 2017).

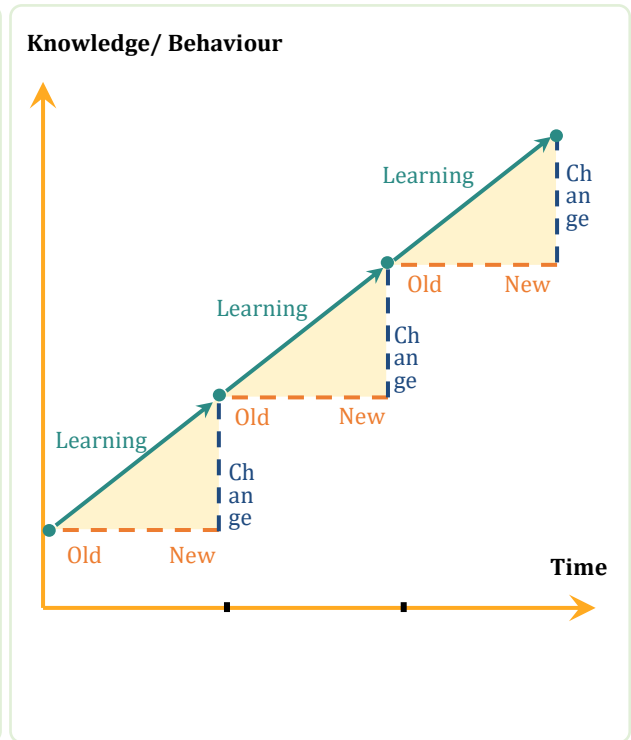
The university landscape in Indonesia – an archipelagic state with over 17,000 islands and a total population of 270 million, and the world's most populous Muslim-majority country – is complex. Amongst approximately 3,276 Indonesian universities, there are 122 public universities (Maulani & Hamdani, 2019). Only 1,130 universities are accredited, with about 50 (amongst them, Petra) achieving the highest 'A' accreditation tier by the National Accreditation Board (UK Petra, 2017). The global rankings of Indonesian universities have been characterised as "very disappointing", with only nine Indonesian universities being indexed by QS World University Rankings (Maulani & Hamdani, 2019, p. 142).

Whilst Petra is considered the top private university in Indonesia by some (Litamahuputty, 2015; UK Petra, 2017), it has, in recent years, consistently been ranked as a top 15 private university by the Indonesian Ministry of Education (Top Universities, 2021). Petra's IBM programme is a four-year Bachelor course in the Faculty of Business and Economics that is conducted in English rather than the national language, Bahasa Indonesia. The IBM programme is committed not only to improving the cognitive aspects of its students with special reference to the internationalisation of business but also to strengthening their integrity and shaping their professional attitude.

A Pareto analysis (popularly known as the 80/20 rule) (Koch, 1999, 2014) can be applied to higher education (HE), with 80% of education being less relevant to graduates' performance in the workplace. Learning encompasses the transformation from an 'old' behaviour to a 'new' positive behaviour, which may create a knowledge advantage. Otherwise, we have not acquired actionable knowledge (see Figure 1 for the 80/20 rule). Figure 2 shows the cumulative effect of learning with new knowledge building on prior knowledge, and it becoming increasingly powerful within a learning transformation cycle.



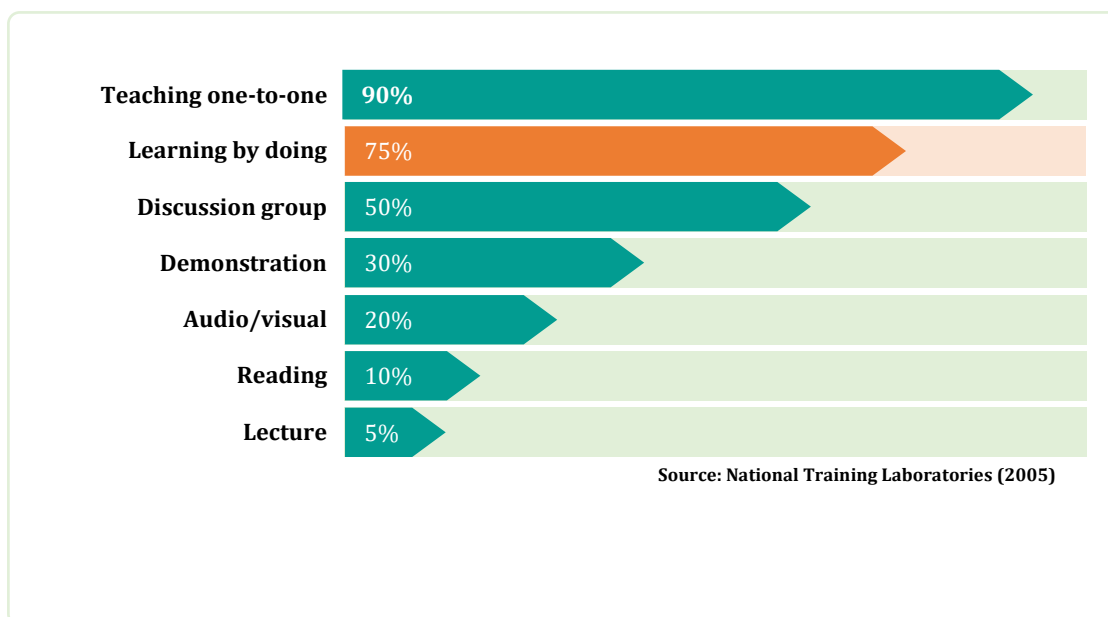
**Figure 1: 80/20 rule.**  
cycle.



**Figure 2: Learning transformation**

From a holistic approach to applied learning, the next element for knowledge retention is project-based action learning (Revans, 2011; Wills, 1993; Zuber, 2017; Teare, 2018; Marquardt *et al.*, 2018; Chan, 2017a). This is also known as workplace learning (Abraham, 2012), where 75% effectiveness can be achieved (see Figure 3 for the percentage of knowledge retention through different learning techniques). In contrast, case studies apparently are only 50% effective. Since learning by doing, or project-based learning, tends to achieve 75% effectiveness, it constitutes a powerful approach in HE.





**Figure 3: Percentage of knowledge retained after completion of learning.**

The three-pronged approach of project-based action learning utilises:

holistic thinking – for integration of people, process, and tools for effective planning;  
 systems thinking – for successful implementation of strategy by converting it into a portfolio of prioritised programmes and projects with the right key performance indicators for effective monitoring and controlling; and  
 critical thinking – for innovation of products and services to achieve faster, better, and smarter outcomes because of effective decision-making.

This approach is highly suitable for a university teaching environment. Project-based action learning is not just useful for the retention of knowledge, but aims much higher, such as for building leadership capabilities (Barkley *et al.*, 2001). One of the suggestions of this article is to promote project management as a core competence of HE students and as a common language for non-routine work by enhancing team capacity in order to achieve synergistic effects. This could help in improving higher education institutions’ capabilities for organisational transformation. As a result, the Project Management Institute (USA) revised the Project Management Body of Knowledge (PMBOK) in 2017 – the sixth edition changes the mission of project management to “Organisational Project Management.” This reflects the significance of connecting strategy, business and operations for alignment and optimisation of resources for coherent objectives and results.

## 2 METHODOLOGY

What is being described in the findings and discussion section is not something that was created from the beginning by the lead author, when he started to teach in the IBM programme in 2002 at Petra. It went through many iterations by adopting an action research approach that continued to reflect on, and incorporate, his students' feedback in constantly improving his teaching and learning approach. The lead author's educational action research approach to evaluate the different teaching strategies and learning outcomes is comparable to those of Mettetal (2002) and Gay & Airasian (2003): it starts by identifying a research question (*Has the students' learning during the series of IBM modules benefited them in terms of employability and becoming critical, holistic thinkers?*) and moves through the following stages: reviewing the literature; planning a research strategy; gathering data; making sense of the data; taking actions; reviewing the results (based on student and other feedback) and continually improve.

The data were collected during the period of 2006 to 2018. A mixed-methods survey was sent via email to all alumni (hence, no sampling) of the 13 cohorts of IBM students (that start with 60 - 80 students each). The question posed to the students was:

“Would you share in a concise way, how have you benefited from learning the ‘Wholistic Approach’ taught by Prof. KC Chan after you have graduated from Petra?”

It may be useful to note here that the term “wholistic” (Carter *et al.* (Eds.), 2012) is not a misspelling. The lead author conceptualises “wholistic thinking” as something that is larger than mere holistic thinking as the ability to utilise both the right brain (holistic thinking) and the left brain (systems thinking) for effective analysis (lateral thinking) resulting in effective decision-making (critical thinking).

The total population amounted to 819 students with a response rate of 31%, i.e. 253 respondents. The respondents were aged 23 years and above. A precondition of the selection of these participants was that they had to have at least one year of working experience to qualify for participation in the survey. Consequently, responses that did not meet the criteria were discarded. In addition, a survey with 208 respondents was conducted in 2016 for IBM graduates who had over five years of working experience after graduation.

Using Braun and Clarke's (2006) thematic analysis method, we analysed the graduates' reflective responses. An inductive approach was employed in analysing all responses and themes were coded without trying to fit them into a pre-existing coding frame. These codes exhibited emerging patterns (Braun & Clark, 2006). Initially, ten themes (way of thinking; perspectives; thinking critically; project management; integration; business strategies; planning; problem-solving; ideas; and decision making) were generated which encompassed several sub-themes. Through an iterative analysis, themes were then combined to develop a deeper context for recurring phenomena. We eventually arrived at three final themes – wholistic thinking; structured thinking, and project management skills – which will be discussed in the following section.

### 3 FINDINGS AND DISCUSSION

We now present the afore-mentioned six-phase model, consisting of awareness, alignment, action, adoption, assurance and anticipation. Survey results and a thematic analysis of graduate testimonials are presented within the section on the assurance phase. Figure 4 captures the 6As design thinking approach in understanding and constructing a module using relevant tools or templates for analysis. We exemplify the application of the model to the IBM programme.

**Awareness:** it is essential to ask what IBM is, why IBM is vital to a country, industry and company, and how IBM is conducted regionally, internationally, and globally.

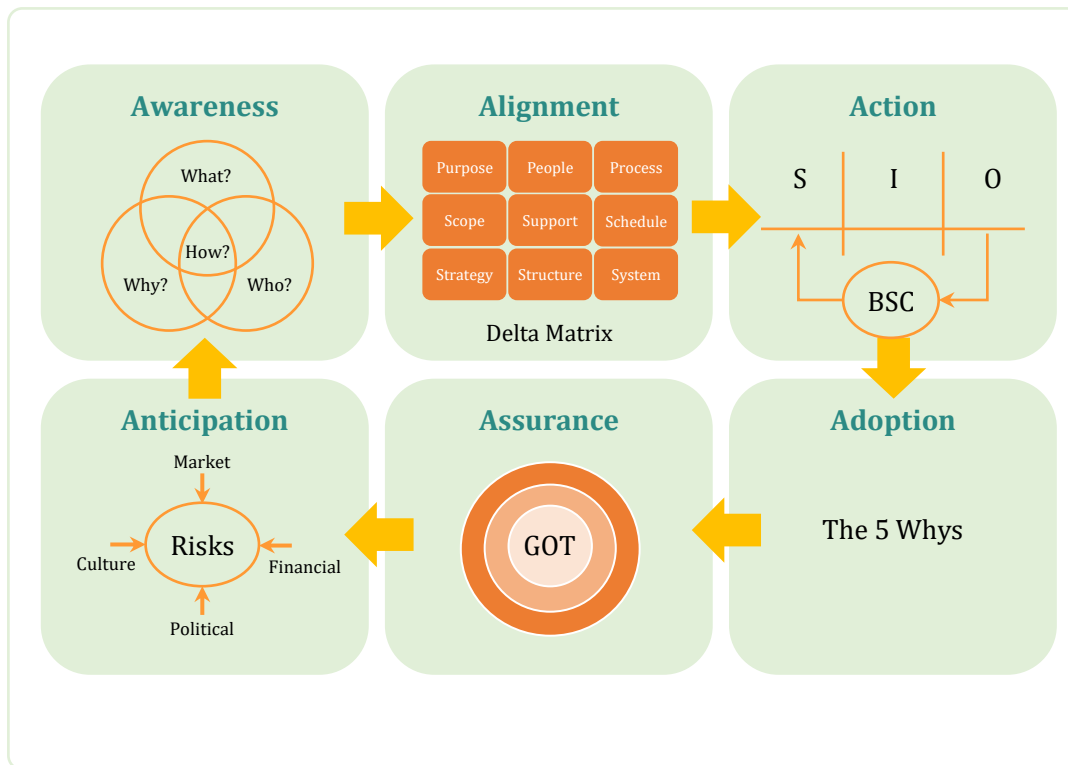
**Alignment:** it is essential to use the Delta Matrix to get a better picture of the subject matter by examining the nine elements which are explained in Figure 8.

**Action:** it is essential to strategise, implement and operate (S-I-O) and use a balanced scorecard to monitor and control the outcome of the strategy. The output is a business strategy to be executed by the right people who know the right process for implementation and are equipped with the right tools for speed of execution. The investments for the business strategy are prioritised into a portfolio of programmes and projects for implementation. It is necessary to have an enterprise balanced scorecard to form a closed-loop feedback and control system to measure the learning and growth of the employees, the internal business processes in meeting the VUCA (volatile, uncertain, complex, and ambiguous) business environment, customer satisfaction, and sustainable financial performance.

**Adoption:** it is essential to achieve buy-in from the stakeholders. An effective method is to ask the Five Whys of making any change or transformation. For example: Why change? Why change now? What if we don't change? When should we change? Where should we change? "People don't resist change; they resist being changed" (Senge, 2014, p. 55).

**Assurance:** it is essential to improve continuously by focusing on the goal, objectives and targets, which depend on what we have set as our baseline. These goals can be short-term (up to three-year targets), mid-term (up to six-year targets), and long-term (up to ten-year targets). Meeting these goals warrants alignment with the development and cohesive planning of operations objectives.

**Anticipation:** it is essential to plan a risk response strategy from the awareness to assurance phases. Otherwise, there will not be enough time for risk planning for the implementation of the risk response strategy to cater for both positive risk (opportunity) and negative risk (threat). For IBM, there are four basic types of risk – market, financial, political, and cultural.



**Figure 4: Design thinking applied to IBM method.**

**Awareness Phase** (I need to know what are my strengths and weaknesses)

The self-discovery of every student on the IBM programme has been carried out at the beginning of the third year of a four-year honour’s degree. The first two years are taken up with general management studies. Their first contact with the lead author is at the beginning of the third year, when he delivers the following four IBM specialisation modules: Introduction to International Business Management and International Marketing Management in Year 3; and Global Strategic Management and Multinational Enterprise & Government in Year 4.

Each module is taught over 14 weeks, spread over four months, with 42 hours of applied teaching and learning through project-based action learning. During the period of the research project (2006 - 2018), the lead author visited the university on a fortnightly basis and alternate lessons were allocated for team presentation on a contemporary topic or actual event that needs creative and innovative solutions – for example, the trade war between China and the United States of America: what is the impact on the Indonesian economy?

Each team is given a specific industry to be analysed and discussed for the IBM module. In total, there are six real-world, project-based case analyses focusing on current events using concepts and theories taught during class. Students are encouraged to think ‘unboxed’ by searching for the latest concepts and information to support their delineation.

There is a mid-term and a final-term exam using contemporary research articles that apply to real-world case studies. The students need to be aware of their learning style (Kolb, 2017) and their strengths and weaknesses within Belbin’s (2010) nine team roles so that they can

identify areas for individual improvements and perform better as a team. In the example provided in Figure 6, the student scored most as a reflector which implies that before engaging in action, she makes sure that she has enough knowledge to proceed. She is thus more of a pragmatist than an activist.

On the other hand, when involved in a project, students who display their leadership role make decisions (shaper), chair meetings and get things done through others (coordinator), ensure that all documentation is duly completed (completer/finisher), avert friction when the team is moving towards a conflict situation (team worker) and at the same time evaluate the quality of the work (resource investigator). The profiling of the nine team roles is based on the work of Belbin (2010; see Figure 7). Further, the action learning balanced scorecard is introduced and each team must identify what they have learnt at the end of every presentation (see Figure 5).



Figure 5: Project-based action learning paradigm.

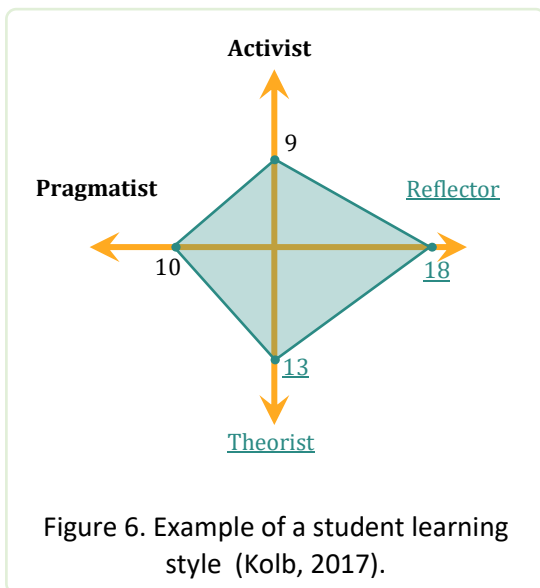


Figure 6: Example of a student learning style (Kolb, 2017).

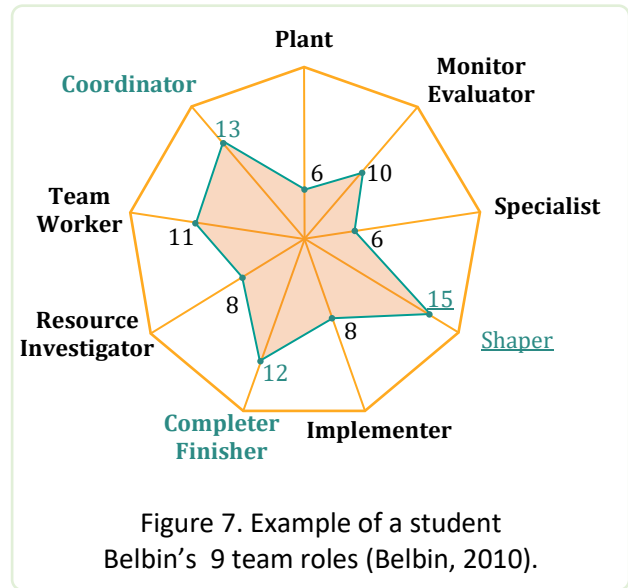


Figure 7: Example of a student Belbin's 9 team roles (Belbin, 2010).

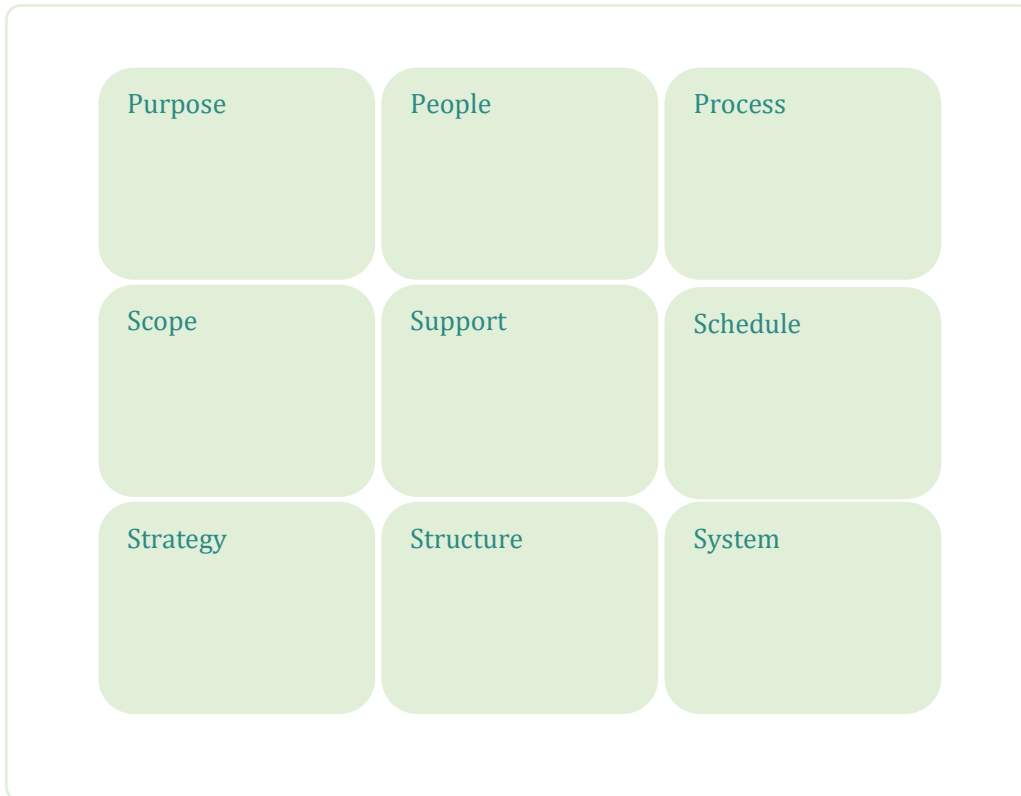
The primary objective is to make sure the students have reflected on what they have learnt from each presentation. The rationale is to improve their design thinking skills. Design thinking consists of engaging the whole brain to look at a topic or issue being evaluated, applying four types of reinforcing and intertwined competencies:

Holistic thinking – to integrate concepts, theories, and solutions to achieve clarity in planning.  
Systems thinking – to implement projects with the right people, process and tools for effective control using the right key performance indicators (KPIs) to measure the successful execution of the strategy. Strategy is better managed and controlled by converting it into projects.

Critical thinking – to innovate as an outcome of effective decision-making by choosing the right alternatives.

Lateral thinking – to improve continuously as an outcome of evaluating from six different perspectives (de Bono, 1985).

The elements in applied teaching in the IBM module need to be integrated and connected. The clarion test for this is a template called the Delta Matrix (see Figure 8). The Delta Matrix as a wholistic approach applied to IBM has nine design thinking elements adapted from Bartlett and Ghoshal (1994, 1995a, 1995b): Purpose (Why?) of studying IBM; scope (What? and What Is not?) of IBM; strategy (How to get there?) of IBM for doing business regionally, internationally, and globally; people (Who?): IBM stakeholders who can influence the success or failure of its strategy; support (Where resources are needed?) of IBM is available at the right time, place and quantity; structure (How to organise to optimise?) of IBM for faster, better, supreme execution capability; process (How to implement?) of IBM for sustainable competitive edge to beat the competition; schedule (When to implement?) of IBM for short-, mid-, and long-term business results; and system (How to measure?) of IBM using an appropriate balanced scorecard with the right key performance indicators (KPIs).



**Figure 8: Delta Matrix (See Appendix for Summary of IBM elements.**

The first step is to ensure a vertical fit of the three elements by aligning purpose-scope-strategy; people-support-structure; and process-schedule-system:

- Strategy is to achieve the purpose of the business/project and focus on its scope to accomplish the specific goals/objectives/deliverables.
- People (stakeholders) are organised in the right organisation structure to achieve optimum performance with adequate support, i.e. resources (money, manpower, machine, material, method) including quality time, conviction and commitment from senior management.
- Process is implemented at the right time/schedule to meet the delivery promise and is measured with the right balanced scorecard system for monitoring and control (learning and growth, internal business processes, customer satisfaction, and sustainable financial performance).

The next step is to ensure a horizontal fit of the three elements by aligning purpose-people-process, scope-support-schedule, and strategy-structure-system:

Purpose of business mission, goals and objectives can only be attained by engaging the right people who implement the right process and are equipped with the right tools/technology. Scope cannot be overly ambitious and should stay focused on ‘what is’, and away from ‘what is not’, the core business and the distinct competence of the organisation. Senior management needs to recognise the importance of setting the right priorities, support and commitment to providing resources and quality time to track and manage the project by

adhering to the promised milestone schedule for project deliverables. If management is not convinced about this, the project will be at risk of underperforming.

Strategy needs the right organisation structure to ensure effective and efficient execution. As advocated by Chandler (1962), “structure follows strategy”. In some world-class organisations, key projects have project managers and team members reporting directly to the CEO using an informal organisation structure called “projectised structure” (PMI, 2017), which will be dissolved once the project is successfully completed. A strategy is only a plan. The strategy is converted into projects for its successful execution to achieve the required business results. Without an appropriate balanced scorecard system with the right key performance indicators (KPIs), it is difficult to monitor and control the successful execution of the strategy (Kaplan & Norton, 2008).

Successful execution of a strategy is measured by the business value-add from employees, the overall productivity of internal business processes, customer satisfaction and retention, and sustainable financial performance. The learning and growth of employee competence must be ascertained, otherwise, it will lead to complacency which will erode competitiveness. Using the Delta Matrix as a template and tool, holistic thinking ensures that key elements of the knowledge areas have a good fit (Teng & Chan, 2018). The final audit is to ensure a diagonal fit of the three elements, purpose-support-system and strategy-support-process, for tenacity.

Purpose, support and system must also be aligned for their diagonal fit. The business goals, objectives and targets (purpose) must be matched by the maximum utilisation and optimisation of resources (support) to achieve best cost, best performance and/or best solutions. There must be a proper feedback and control system with the right balanced scorecard to measure the right KPIs, taking into account people (learning and growth), process (continuous improvement through innovation) (how to transform expensive and complex products, services, and solutions into simple and affordable ones), customer expectation and experience (customer loyalty and retention through tracking and managing the customer happiness index), and sustainable financial performance (divesting those products and services that are uncompetitive before it is too late).

Strategy, support and process must also be aligned for their diagonal fit. The end game of strategy is to implement a cost-effective and efficient process for optimisation of resources. To garner continuous support from investors, the winning order objectives are cost, quality, speed, reliable delivery promise, and flexibility advantage. In the IBM module, the emphasis is on transforming a customer-centric design thinking strategy into an action advantage to minimise the strategy-execution gap, i.e. fostering execution capabilities regionally, internationally, and globally.

### **Alignment Phase** (We understand what is the core competence of IBM students)

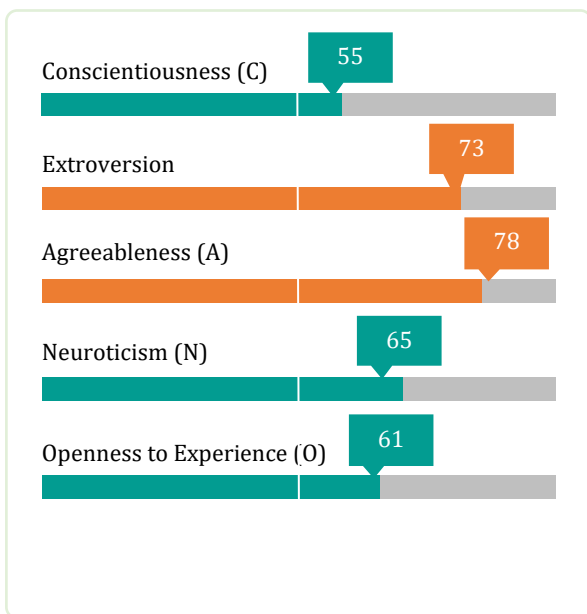
A core competence has been described as unique, scalable, and hard to emulate (Hamel, 2007). Hence, the IBM students have to focus on building up their whole-brain thinking skills, i.e. wholistic thinking. This is developed from the design thinking concept of transforming complex and sophisticated ideas, concepts and models into simple and practical ones, by applying holistic, systems, critical, and lateral treatment to develop the individual,



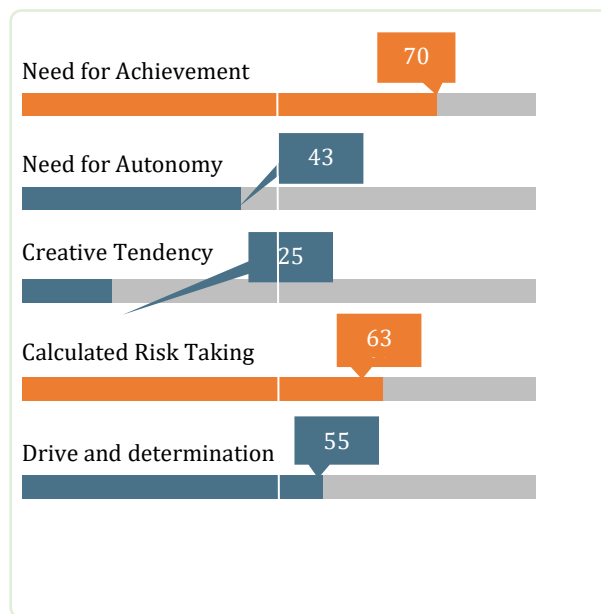
team and organisational competence in the ability to integrate, implement, innovate and improve continuously for a high-performance culture. This can be a win-win-win paradigm shift (the way we think, work and behave) for students, faculty, department, and the university. The maturity of an organisation depends on the accelerated learning among its stakeholders. Wholistic thinking can be used as the common thread that bridges the gap between concept and competence with the right connections, for instance via the Delta Matrix (Chan, 2018).

From the second module onwards, the students can better appreciate the usefulness of case study analysis, using the wholistic thinking approach coupled with project-based action learning. This enhances their chances in national competitions in Indonesian universities. For example, the cohorts in 2007 and 2008 won first prize in the National Nokia Marketing Award, came in first in Indonesia's Strategy for Tourism and Hospitality Competition, and won the National Essay Award in Doing Business Regionally, Internationally and Globally. Since 2010, Petra's IBM graduates have managed to secure entry into Financial Times Top 100 MBA programmes like the ones offered by Australia Graduate Business School (UNSW), Melbourne Business School, London Business School, Erasmus, Nanyang Technological University, or Warwick. In addition, the Petra "Wholistic Team" won the prestigious CIMB Group competition for ASEAN region students who have talent and technological innovation to provide solutions to the challenges of the banking world in the fourth industrial revolution.

For the second module (International Marketing Management), students undergo additional profiling tests for "Big Five Personality Traits" and the "General Entrepreneurship Model" to get a clearer picture of their flair for management and entrepreneurship (see Figure 9 for an example of personality traits and Figure 10 for an example of a general entrepreneurship model). Every student has to combine the learning style, nine team roles, five personality traits, and the general entrepreneurship model. They then need to compile an action learning report in video format and be coached by a lecturer to determine the preferred industrial attachment or internship – local or overseas, and company type. Every student video will be placed on YouTube for viewing by prospective employers.



**Figure 9: Example of a student personality trait**



**Figure 10: Example of a student general entrepreneurship model.**

Figures 9 and 10 provide examples from the same student who had completed the learning style and nine team roles profiling tests (see Figures 6 & 7). This student has strong presentation skills, and she also practises using words that work, i.e. keeping sentences succinct, having a positive attitude towards constructive criticism and showing a willingness to change by seeking coaching and mentoring from trusted advisors and lecturers. She also works hard and focuses on critical activities that reap maximum benefits. Indeed, her 20-minute video recording based on the profiling analysis of herself and the project-based action learning paradigm on lessons learnt was the best in class for her cohort. She has a flair for entrepreneurship, and is highly motivated for achievement, which is supported by her willingness to take calculated risks, determination to succeed, and desire for autonomy. Her only weakness is her relative lack of creative thinking. This handicap could be addressed with a positive mindset and prudent project-based action learning during her thesis. Indeed, she managed to win a scholarship sponsored by an Indonesian conglomerate.

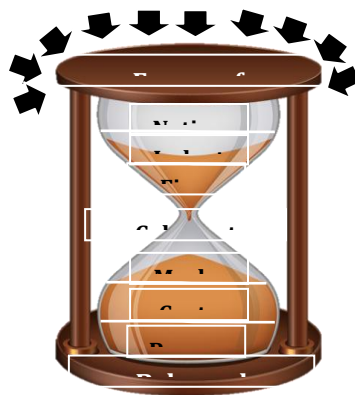
The students are required to practise the four types of thinking skills (de Bono, 1985) for all assignments, mid-term and final term exams. Initially, they may be resistant to this new frontier of thinking processes. As they pass through the four semesters with the lead author, they can also apply the concept, competence, and connections of whole-brain thinking to other subjects that are taught during the third and fourth year of their honours degree.

**Action Phase** (We can see the benefits of synthesising the four kinds of thinking abilities)

The Global Strategic Management (GSM) module is not easily understood by students who have no real-life business experience. However, after applying the four kinds of design

thinking skills (de Bono, 1985), students' ability to synthesise information for in-depth analysis has enabled them to come up with pragmatic solutions. The S-I-O (Strategise – Implement – Operate) model has been developed to measure the successful execution of strategy by converting it into a portfolio of prioritised programmes and projects for effective implementation to attain the business results – to be monitored and controlled using an enterprise balanced scorecard.

The Hourglass model (Figure 11) was developed by Petra students (Chan, 2017b). The lead author's GSM students organised four colloquia that were open to academics from other departments, covering contemporary knowledge areas from Strategic Global Management, International Marketing, International Business Management, and Multinational Enterprise and Government.



**Figure 11: Hourglass model.**

The project-based action learning equation needs to satisfy four criteria: original contributions to workplace learning; identification and design of innovative solutions; implementation of those solutions; and assessment of their effectiveness.

**Adoption Phase** (We want to develop into whole-brain lifelong learners)

The first batch of IBM students graduated in 2002. In order to have evidence of the programme's usefulness, a survey with 208 respondents was conducted in 2016 for IBM graduates who had over five years of working experience after graduation. The outcome of the survey is shown in Tables 1 and 2. An overwhelming percentage of the respondents perceived 'wholistic thinking' to be of practical value. They endorsed the concept of developing the left brain for analytical abilities and the right brain for holistic abilities, leading to the need to use the whole brain for innovation and effective decision-making.

**Table 1: Survey results (Part 1):** in appendix

**Table 2: Survey results (Part 2):** in appendix

**Assurance phase** (We will excel and become role models for other learners in other institutions of higher learning)

Testimonials are used as an additional primary source in this research. They are important because it is the learners who convey their affirmation as to whether they are respected by other peers or stakeholders who can benefit from wholistic thinking. Of the many testimonials received over the past ten years, the extract below is particularly reaffirming:

“I've gone through MBA studies at two of the world's premier business schools. There is no doubt to me anymore that Dr. Chan set a very high bar for his students at IBM Petra. Not only have his... lectures helped me to win academic competitions and to excel academically, they have also built the necessary thought processes in my mind to think way beyond my years of experience. While there are other business professors that deliver similarly high-quality materials as Dr. Chan, the skills he taught to make me a holistic, systematic, and critical thinker have been simply unparalleled by any others... The skills Dr. Chan taught me are still relevant even after almost a decade. Information and knowledge will be obsolete after some time, but a sound thought process will never be”.

There have been many other testimonials emanating from the IBM programme. In accordance with the process described in the Methodology section, we are now discussing the three main themes that we inductively generated.

*Wholistic thinking (encompassing critical and holistic thinking)*

First, the graduates' capability for critical and holistic thinking was derived from our analysis. In terms of holistic thinking, the graduates assessed themselves to be able to innovate by using essential decision-making skills, leading to improved efficacy and efficiency. Critical thinking encompasses the cognitive abilities to integrate concepts, theories, and solutions to achieve a desirable outcome. The collated graduate reflections revealed that they honed critical and holistic thinking in their ability to conceptualise theories, execute actionable and measurable plans, and were able to problem-solve “in a faster..., better... and a smarter way” (to cite one of the graduates). The IBM graduates reflected on their learning journey and the quotes below present selected insights gained after attending the IBM programme:

“Studying the Wholistic Approach is very beneficial for me. With this great concept of thinking, we can solve complex problems and attain effective business results. A very pragmatic approach that is unique” (Human Resources Director, PT HM Sampoerna Tbk.).

“We can analyse problems holistically, and critically select pragmatic strategy for filling the knowing and doing gap, using the tools of wholistic thinking for integration, innovation, and systematic implementation of the solutions”.

“It helps me to think critically what may become the main problem, deeply understand what are the inputs to be transformed into the targeted output (action

learning process)” (Marketing Director, PT Sopianusa).

### *Structured thinking*

The second inductively generated key theme is structured thinking. It encompasses cognitive skills involving breaking down complex problems, the ability to recognise patterns and identify important information while ignoring unrelated or irrelevant detail, and finally sequencing the problems logically and orderly for easy understanding, thereby achieving a flow (Andrian & Hikmawan, 2021). Many IBM graduates discovered that after attending the course, they were able to solve their problems with more ease, employ strategies systematically, which in turn provided them with ‘flow’ in their learning and train of thoughts. Below are some examples of pertinent reflective statements by IBM graduates:

“I can plan my business strategies, implement those strategies, and control the strategies better in my work-life” (COO, PT SMART).

“It helps me to expedite the progress of my dissertation. The thought process makes it easy to construct my dissertation”.

“It helps business people to analyse through a wholistic perspective and they are able to generate strategic and measurable decisions” (SVP, Bank Permata).

“I think it is about seeing the bigger picture and after that the details. Then arrange it systematically and logically to achieve supreme performance” (Engagement Manager, McKinsey).

### *Project management skills*

In the final theme, project management skills were identified. They refer to the process of attaining project objectives with limited resources, without adversely disturbing routine operations (Munns & Bjeirmi, 1996). The IBM graduates reflected on their learning journey and elaborated on their successes. Many were able to achieve project objectives with minimal assistance by applying a collection of tools and techniques gained during their IBM studies. Many graduates also felt that the project management skill set acquired during their studies equipped them to work more efficiently and meticulously. The quotations below illustrate the continuous improvement of the graduates:

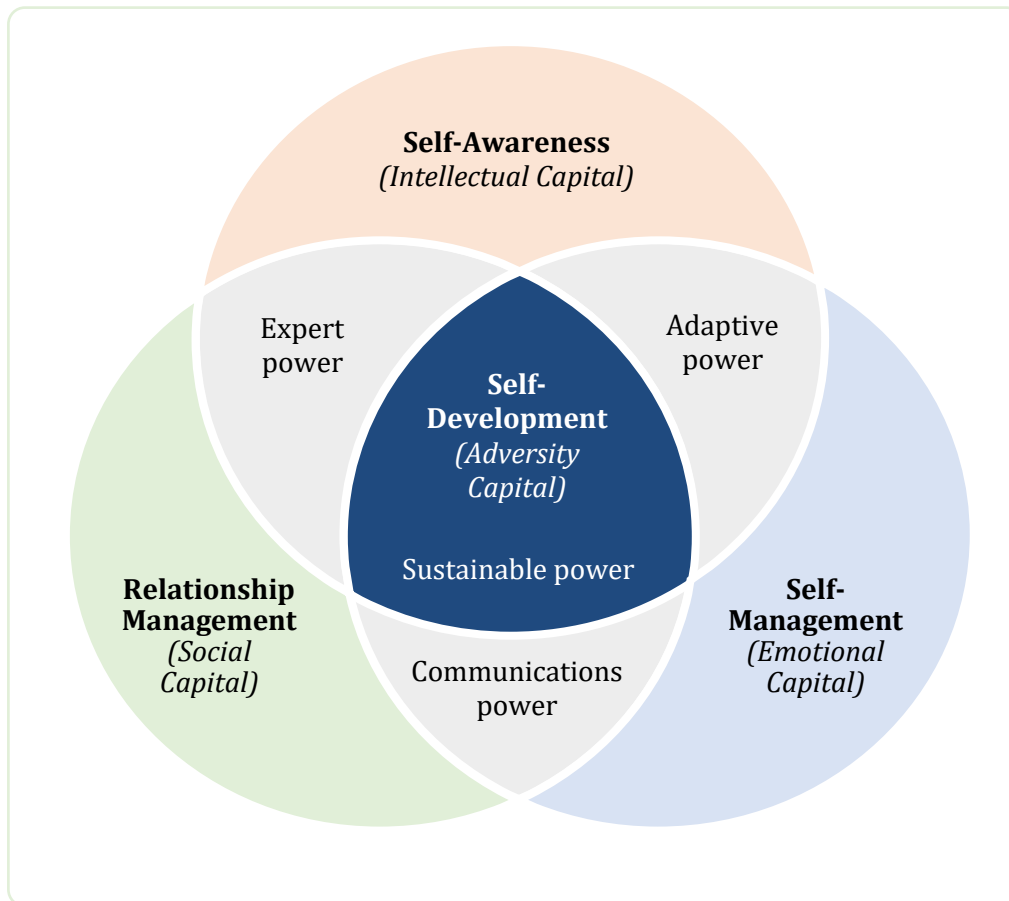
“Not to miss any detail in the whole process of planning, integration, execution, and control in doing every project”.

“I have learned to make better decisions, and then implement and control them in order to be successful”.

“It makes the work faster, better, smarter, faster, better, smarter, with continuous improvement”.

In the final module of the last semester, Multinational Enterprise & Government, every student is required to produce a 15-minute video detailing what they have learnt from the first

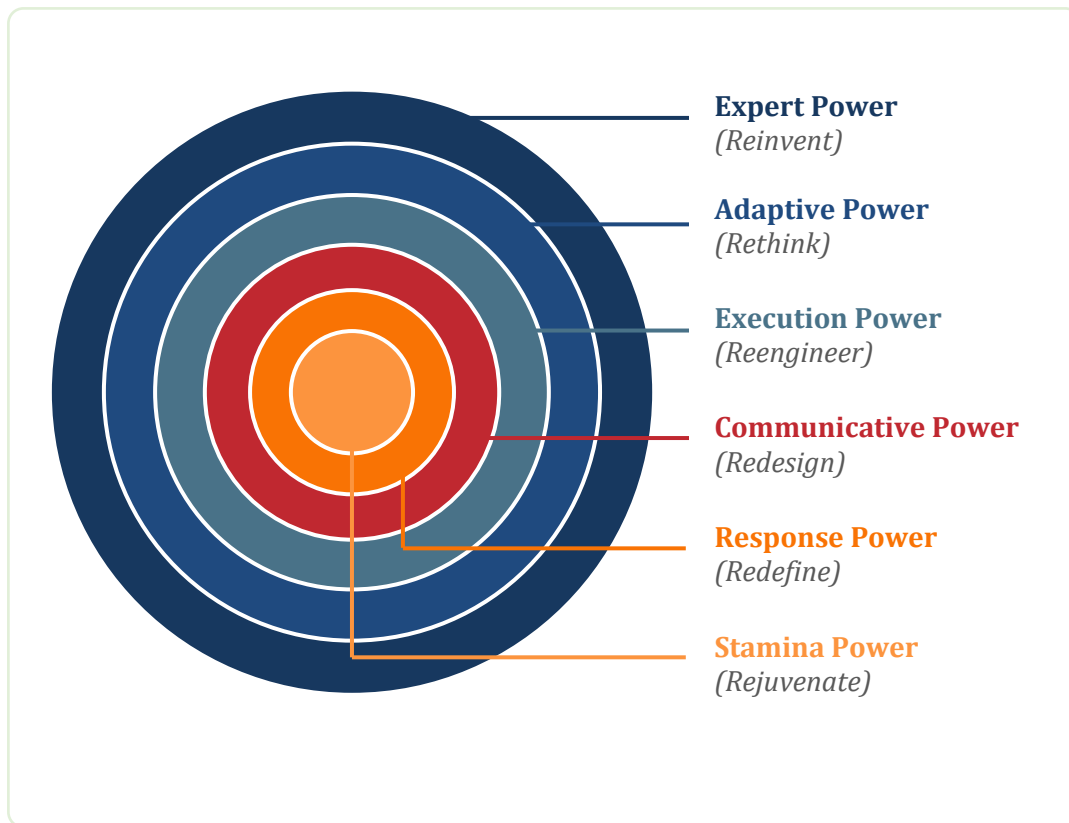
to the fourth module using the project-based action learning equation, and the five profiling tests that give an indicator of their management, leadership and entrepreneurship style. Figure 12 shows the four types of power for self-development. Each student provides an action plan for short-term achievements (up to three years after graduating), mid-term career advancement (up to six years after graduating), and long-term professional goals (up to ten years after graduating). The fact remains that though many plans have failed, more have failed to plan. The essence of a plan is the outcome of a thought process. It must be transformed into activities with process ownership for business results.



**Figure 12: Self-development power.**

**Anticipation Phase** (We have to work around the limitations and implications of project-based action learning)

Project-based action learning and design thinking for a wholistic approach to attain accelerated learning is not a panacea. It is a good strategic intent to improve on the current approach to teaching management, leadership, and entrepreneurship. The concept of disruptive innovation shows that there is no best way but always a better way. Disruptive innovation is all about transforming expensive and complex products and services into simple and affordable ones (Christensen, 1997). After that comes ‘disruptive thinking’. When applied to learning and teaching, the lead author has started to introduce a pragmatic approach using the concept of disruptive thinking (see Figure 13).



**Figure 13: Onion diagram of disruptive thinking.**

In management, leadership and entrepreneurship (which in the era of digital transformation in Industry 4.0 will evolve into technopreneurship), most important is what works – the basic concept of artificial intelligence is about deep learning using real experiences (Lee, 2018). This is espoused by the late Peter Drucker (2008), the father of modern management, entrepreneurship and innovation. The gap between theory and practice must be bridged, otherwise, management theories can be ten to 20 years ahead of time, while the practice is still following the old ways until the organisation enters a crisis (Sutton, 2012).

## **4 CONCLUSION**

In essence, this article focuses on teaching students how to think better, faster, and smarter so that they can achieve more through accelerated learning (as an outcome of project-based action learning). Knowledge is accumulated from a concerted effort to learn and in tandem with what is being taught. It cannot be left to Senge's (1990) old concept of a learning organisation where everyone is assumed to take an active part in learning and is committed to self-actualisation. To be sure, it is the responsibility of every student to be aware of their strengths and weaknesses at the beginning of their journey towards self-development.

Five profiling tests were implemented and students were required to craft an action plan that stretched over a ten-year period, so that whatever they have learnt was related to accomplishing their individual career goals. Thus, they were developing expert power (based on intellectual capital obtained from the course of study), connection power (based on social capital through networking with key stakeholders), adaptive power (as an outcome of emotional capital through project-based action learning to enhance their leadership, management and 'technopreneurship' abilities), and sustainable power (with stamina to remain resilient, and adversity capital to last for the ten-year action career plan). In a similar vein, Christensen (2012) has emphasised the need for self-discovery to think. We may not be able to change the world of applied learning and teaching, but we can change how people think to change the future of education and bridge the gap between teaching and learning.

There are limitations to this study, as they focused on one professor's (the lead author) teachings, one programme (International Business Management) at one university (Petra Christian University) in one country (Indonesia) during a certain period (2006 - 2018). On the plus side, the whole eligible population was surveyed (rather than sampled) over an extensive time period longitudinally, and, typical for action research, multiple sources (including mixed-method research) were employed.

There are opportunities for future research. Due to the coronavirus pandemic, travel between Singapore (where the lead author is located) and Indonesia was rendered impossible from early 2020 onwards, and hence face-to-face teaching by the lead author did not take place. It could be interesting to compare the effectiveness of the IBM programme at Petra pre- and intra-pandemic – and hopefully, in the not too remote future: post-pandemic. Whilst action research is notoriously difficult to replicate, it would not be impossible to use other faculty at different universities with a similar approach and compare the experiences. Finally, further graduate surveys to further track the progress of the IBM graduates would be apt.

## **5 ACKNOWLEDGMENTS**

We thank Joey Crawford (University of Tasmania) for his valuable comments on an earlier draft. Also, the research assistance of Tammy Tan and Yasmin Liyana is acknowledged with gratitude.



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## 7 APPENDIX

### Data Matrix

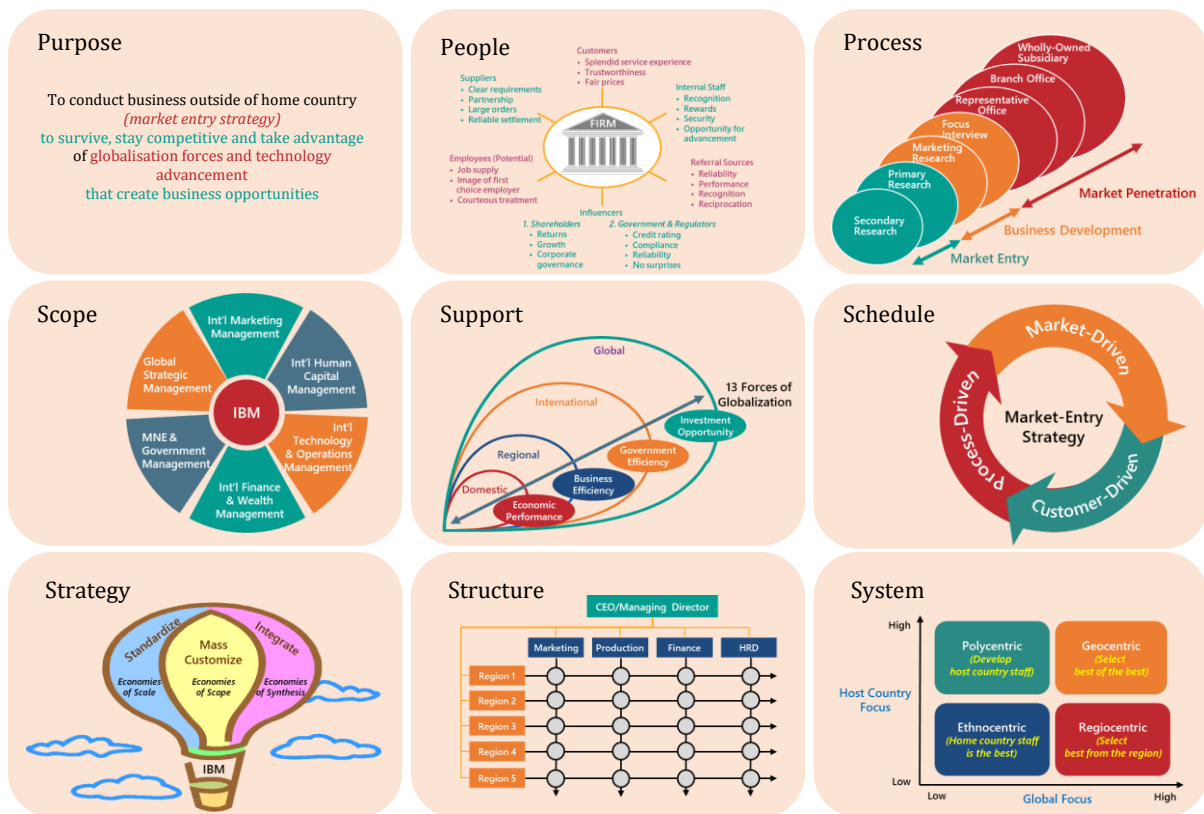


#### Explanation of each element of the Delta Matrix

The **Purpose** of IBM is to conduct business outside the home country to survive, stay competitive and take advantage of globalisation forces that create business opportunities. The Scope of IBM covers the management functions of Marketing, Human Capital, Technology, Finance, Operations and Organisation Control in the IB environment. Three Strategies can reduce the complexities of IBM i.e., Standardisation for Economies of Scale, Customisation for Economies of Scope and Integration for Economies of Synthesis.

The diversity of different **People** and their culture, defined as Stakeholder Expectations Management, create a different IB environment which requires different types of Support, i.e. Economic Performance, Business Efficiency, Government Efficiency or Infrastructure. To manage across functional and across regional operations, a firm conducting IB needs to adopt a Matrix Organisation Structure.

The **Process** of conducting IB involves Market Entry, Business Development and Market Penetration which passes through three phases of Schedule; Market-Driven, Customer-Driven and Process-Driven. Firms may adopt an Ethnocentric, Polycentric, Regiocentric, or Geocentric System to nurture the appropriate organisation culture to cope with the diversity of multi-cultural management in a borderless world.



**Table 1: Survey results (Part 1)**

Question	“Often” response
How often do you apply holistic thinking in your work?	64%
How often do you apply systems thinking into your work?	64%
How often do you apply critical thinking in your work?	67%
How often do you apply lateral thinking in your work?	58%
Do you agree that holistic thinking helps in integration of ideas, concepts, strategies, etc?	94%
Do you agree that systems thinking helps in implementation of strategy (after scrutinising from different perspectives because of holistic	92%

thinking)?

Do you agree that critical thinking helps in the innovation of existing concepts, strategies, redesigning new products/services/solutions? 92%

Do you agree that lateral thinking helps in improving continuously using the six thinking hats for brainstorming as input to holistic, systems and critical thinking? 91%

Do you agree that only in IBM, our unique learning experience is wholistic thinking? 84%

Do you agree that applying wholistic thinking correctly will help you achieve faster, better and smarter solutions in your work? 91%

Do you agree that wholistic thinking is a concept to be shared with more students, lecturers, working adults, anyone who wants to think differently? 92%

Do you agree that wholistic thinking plus action learning is truly a powerful process and tool for future competence to be learned by people who wish to perform better? 89%

Do you agree that holistic thinking helps in integration of ideas, concepts, strategies, etc? 94%

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**Table 2: Survey results (Part 2)**

Survey assertions	Not agree	Somewhat agree	Neutral	Agree	Strongly agree
Holistic, systems, critical and lateral thinking are important for business performance.	0%	1%	10%	40%	50%
Holistic, systems, critical and lateral thinking are important for execution capability.	0%	0%	12%	48%	40%
Holistic, systems, critical and lateral thinking are important for project implementation.	0%	0%	10%	38%	52%

## News article consumption habits of Greek internet users

Evangelia Avraam<sup>10</sup>

Andreas Veglis<sup>11</sup>

Charalampos Dimoulas<sup>12</sup>

### ABSTRACT

The concept of different news consumption habits during a day has been well known for many decades in the broadcasting industry. News websites are also experiencing a drop in late afternoon traffic and a sharp drop in the evening hours. Furthermore, during the weekend, website traffic numbers appeared to be significantly different than the numbers during the weekdays. That resulted in the adoption of the concept of dayparting in the case of the internet. The existence of internet dayparts can have a significant impact on news websites since they can significantly determine their success. It is quite natural to assume that media organizations have adopted their publishing patterns to best satisfy the audience's consumption patterns. This paper investigates those consumption patterns by conducting an extensive web survey among university students and particularly journalism and communication students that are expected to exhibit high consumption rates. The parameters being investigated include time, weekdays and weekends, and content categories. The study identified distinct periods that exhibit specific consumption patterns. The results appear to be to some degree in agreement with findings of previous studies that reported on publishing patterns, but significant differences have also been identified. Those results can provide valuable information for the implementation of successful content publishing strategies from the media organizations.

**Keywords:** consumption patterns, dayparts, web news article, media.

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## 2. INTRODUCTION

The digitalization of journalism during the last 10 years of the previous century has completely transformed the way news is generated and disseminated to the audience (Siapera and Veglis, 2012). The internet along with its services has offered alternative dissemination channels for the news organizations (www, RSS, web-push notifications, mobile apps, social networking, microblogging to name some of them) (Veglis, 2012). This novel medium landscape has enabled media organizations to target different audience groups that exhibit specific news consumption characteristics (consumption time, mobile/home user, device type, etc) (Taneja *et al.* 2012, Avraam *et al.* 2021). That resulted in the complete transformation of the media industry, where new players (Facebook, Google) have emerged and control to a significant extent the news that the general public receives (Brake, 2017; Kolodzy, 2006).

In this context and taking into account, the fears competitions among media organizations to attract the audience (Perego, & Yuksel, 2018), understanding the news consumption habits of the internet users becomes very crucial (Wolf & Schnauber, 2015). In nowadays the continued publication of news 24 hours a day is an established norm. News concerning break events is posted almost immediately on various publication channels (Avraam *et al.*, 2021). This means that media organizations are forced to combine "real-time" adaptation of events, audience personalization preferences, and media specialization (American Press Institute, 2014). This is accomplished through the analysis of statistical data which determine the web traffic of the media organization. The aim is to optimize the services provided to the audience. Of course, the above practices also aim at increasing fame and recognition, establishing credibility, and building relationships of trust with the audience, thus increasing revenues (Colace, Casaburi, De Santo & Greco 2015; Elliott, Chuma, Gendi, Marko & Patel 2016; Leskovec 2011; Pang & Lee 2008; Schultz, Block & Viswanathan 2016; Spann, Molitor & Daurer 2016). The problem is that the news consumption from many publication channels is not easy to measure with software automation. Thus, direct audience surveys are needed to be utilized to measure actual news consumption from the audience (Thorson, 2008; Yuan, 2011).

This paper attempts to find news consumption patterns by utilizing a web survey among university students and particularly journalism and communication students. The latter are expected to exhibit high consumption rates because news is part of their discipline under study. The parameters being investigated include time, weekdays and weekends, type of content, and content categories.

The rest of the paper is organized as follows. Section 2 includes a literature review on news consumption. This is followed by the methodology section in which information about the methodology employed in this study is discussed. Section 4 presents the results of the survey. Next, the results are discussed, and a dayparting model is proposed. Concluding remarks, as well as future extensions of this work, are included in the last section.



### 3. LITERATURE REVIEW

Content consumption and the existence of consumption patterns have been investigated quite thoroughly in the broadcast industry (Beyers, 2004). The concept of dayparting was introduced, which can be broadly defined as a consecutive block of time on similar days (weekdays or weekends) during which, the size of the audience is homogeneous as is the characterization of the group using the medium (OPA, 2003; Veglis, 2014). These segments have a distinct audience as far as their preferences are concerned, something that works well for some advertisers but not so well for others. Each daypart on radio and television has its personality, which is reflected in its programming and advertising (MORI Research, 2003). In other words, in the broadcast industry, the researchers have identified specific consumption patterns that were exploited to increase the audience and also advertisement revenues.

But although the concept of dayparting was well known and well investigated in the broadcast industry, it was not anticipated, at least at the beginning, that it will also be present in the case of WWW. This was to some extent understandable since the web news articles are always available on the internet so there is no reason to study when the actual consumption takes place (Veglis, 2014). Thus, media planning for web content was only interested in overall site traffic, demographics, and content affinity and not for the dynamic changes of the audience over time.

All this changed in 2020 when two studies indicated specific consumption patterns among internet users in the USA (Beyers, 2004). The first one was conducted by MORI for the NAA (Newspaper Association of America (MORI, 2003) and confirmed specific consumption patterns by online newspaper readers. The second one was supervised by the OPA (Online Publishers Association) and identified five distinct dayparts, which differ in usage levels, demographics, and type of consumed content (2003). Similar results were reported five years later by Burst Media that studied the internet habits of women above 25 years old. The following year Newell *et al.* published a study on media consumption which compared new media usage with other traditional media (newspapers, magazines, radio, and television). In 2010 BARI identified four distinct dayparts in the consumption habits of Greek online newsreaders. Finally, Veglis (2014) reported the existence of dayparts based on traffic data from Greek media websites.

Various Internet dayparts were proposed in each of the surveys presented in the literature review. On weekdays, OPA identified four dayparts and one daypart on weekends. MORI did not distinguish between weekdays and weekends and reported four dayparts. Newell *et al.*, identified six dayparts, each with a short length. Bari (2010) divided the day into four equal dayparts, while Burst Media (2007) used five. Avraam (2012) took Bari's dayparts as a starting point and suggested minor changes based on the Greek workday. Finally, Veglis (2014) proposed four dayparts, with no distinction between workdays and weekends.

**Table 1: Definition of dayparts in various studies**

<b>time period</b>	<b>Burst Media (2007)</b>	<b>Newell <i>et al.</i> (2008)</b>	<b>Veglis (2014)</b>
00.01-01.00	Early morning	Overnight	Night
01.01-02.00			
02.01-03.00			
03.01-04.00			
04.01-05.00			
05.01-06.00			
06.01-07.00	Morning-noon	Morning drive	Morning
07.01-08.00			
08.01-09.00			
09.01-10.00			
10.01-11.00	Afternoon-noon	Mid-day	During the day
11.01-12.00			
12.01-13.00			
13.01-14.00	Late afternoon	Afternoon - noon	
14.01-15.00			
15.01-16.00			
16.01-17.00		Afternoon drive	
17.01-18.00			
18.01-19.00	Evening	Primetime	Afternoon- evening
19.01-20.00			
20.01-21.00			
21.01-22.00			
22.01-23.00			
23.01-00.00		Overnight	

The exact daypart models of three of the most recent studies are presented in table 1. All studies propose a similar number of dayparts (4 to 6). The most recent model suggests dayparts with comparable time durations (Veglis, 2014). On the other hand, the other two studies include dayparts that exhibit significant variation in size. The model of Newell *et al.* (2008) includes two dayparts that are related to daily activities (morning drive, afternoon drive) that can be considered as country/culture-specific.

#### **4. METHODOLOGY**

This research was funded by Greece and the European Union (European Social Fund) through the Operational Program "Human Resources Development, Education and Lifelong Learning", in the framework of the Act "SUPPORT OF POSTGRADUATE RESEARCHERS - B cycle" (MIS 5033021) implemented by the State Scholarships Foundation (IKY).

In order to explore the consumption habits of web news consumers, a web survey was conducted. The participants were journalism and communication university students. The selection of this particular group was based on the fact that young people exhibit a very high percentage of internet usage and due to their field of study this particular group shows a high interest in news consumption. Also due to the nature of their study, they are considered to be above average computing devices users. The survey was conducted from 15<sup>th</sup> to 25<sup>th</sup> of May. The survey tool was a web questionnaire that included 15 close-ended questions and it was deployed on the Lime Survey platform of the School of Journalism and Mass Communication of Aristotle University of Thessaloniki (<https://surveys.jour.auth.gr/>). The dissemination of the web questionnaire was done through the school's official mailing lists, through the university's e-learning platform (<https://elearning.auth.gr>). It is also worth mentioning that during the survey preparation, all ethical approval procedures and rules suggested by the "Committee on Research Ethics and Conduct" of the Aristotle University of Thessaloniki were followed.

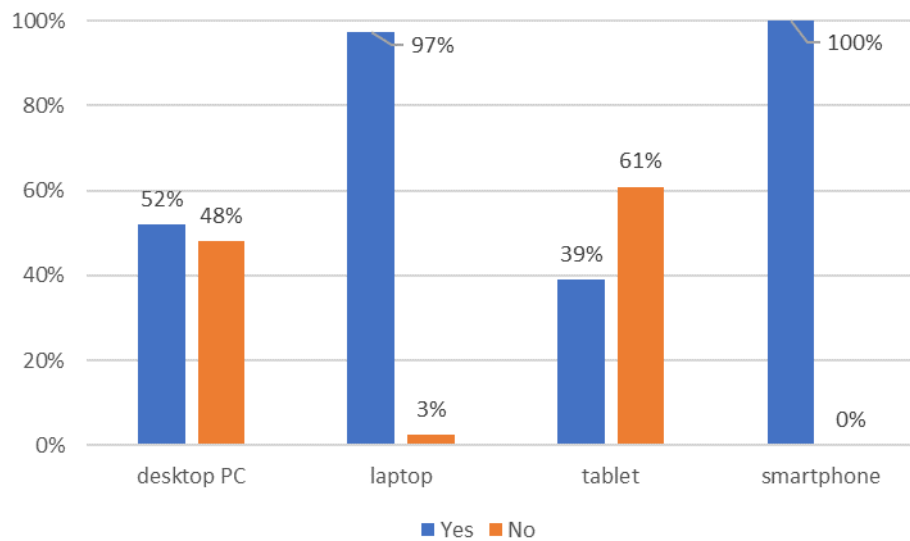
The number of participants in the survey was 171, 153 questionnaires were completed and 18 were partially answered. Some demographic data for the participants 73% were female and 27% male. The majority of the participants 83% belong to the 18-27 age group and the second larger age group was the 28-37 age group with 11%. The rest of the participants were older. As far as education level is concerned 77% reported to be university students and the majority of the rest of the participants were also university students at the post-graduate level. The complete data can be found in Table 2.

**Table 2: Education level of the participants.**

Education level	percentage
Graduate of secondary education	1%
Higher education student	77%
BA graduate	2%
MA student	11%
MA graduate	5%
Phd student	1%
Phd holder	3%

## RESULTS

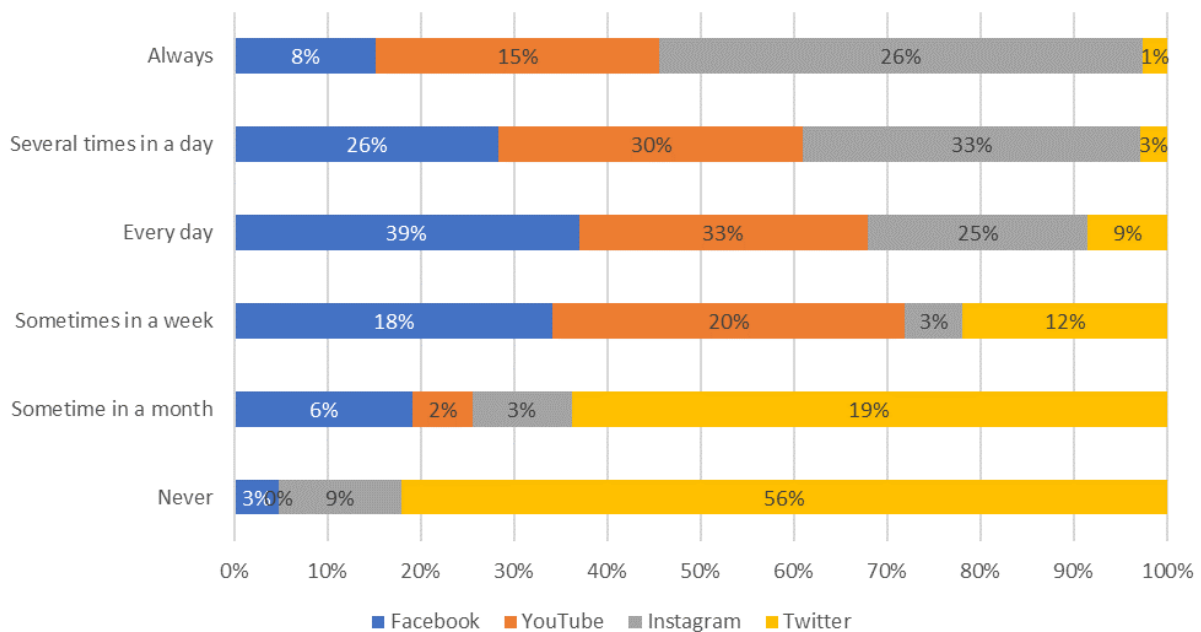
Since the sample of the participants were journalism and communication university students, it was expected that they will be closed related to the use of technology. Almost all the participants own or use a laptop computer and a smartphone. It is worth noting that smartphone usage is slightly higher than the one of the laptop computers. Roughly half of the participants own or use a desktop computer and only 39% own or use a tablet (see figure 1). This finding confirms the initial assumption that journalism and communication students are above average computing device users.



**Figure 1: Percentages of ownership or usage of computing devices.**

Social networking services are frequently used by internet users around the world for staying informed about current news (Boukes, 2019). The participants of the survey were asked to state the frequency usage of the most widely used social networking services (Facebook, Twitter, Instagram, and YouTube). The results show that Instagram is the most frequently used service with 26% of the participants reporting that they are always using it. Second is YouTube and Facebook appears to be third. Twitter appears to be the less popular social networking service with more than half of the participants replying that they never use it. This is quite an interesting result since Twitter is considered to be the main channel for news dissemination (Seth, *et al.*, 2017). Nevertheless, the majority of the participants report on

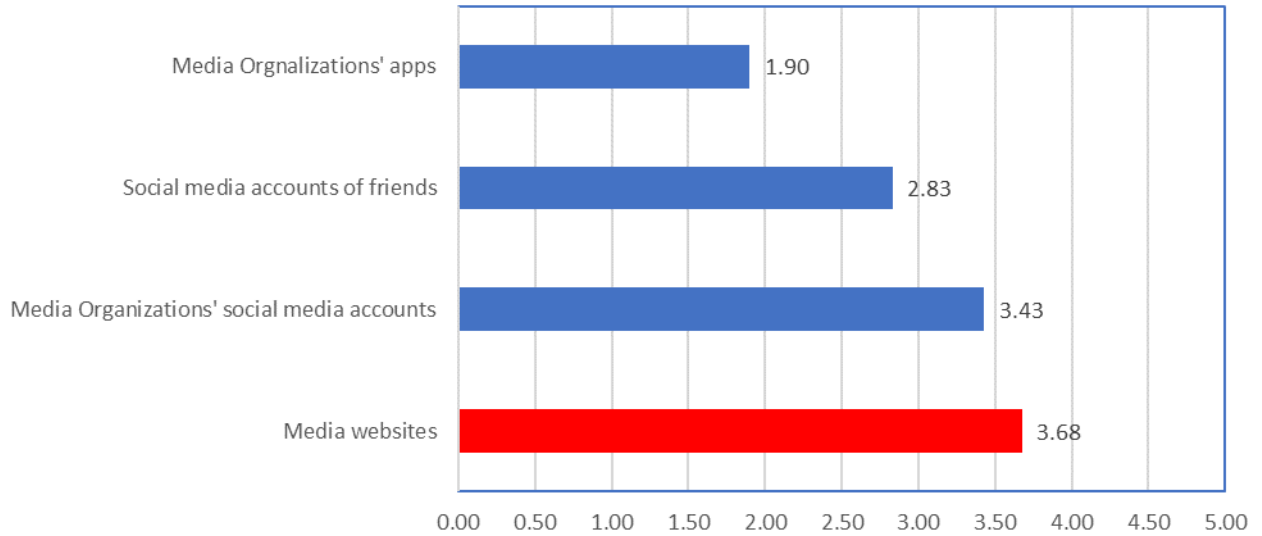
using Facebook, Instagram, and YouTube at least every day. All data concerning frequency usage of social networking services are displayed in figure 2.



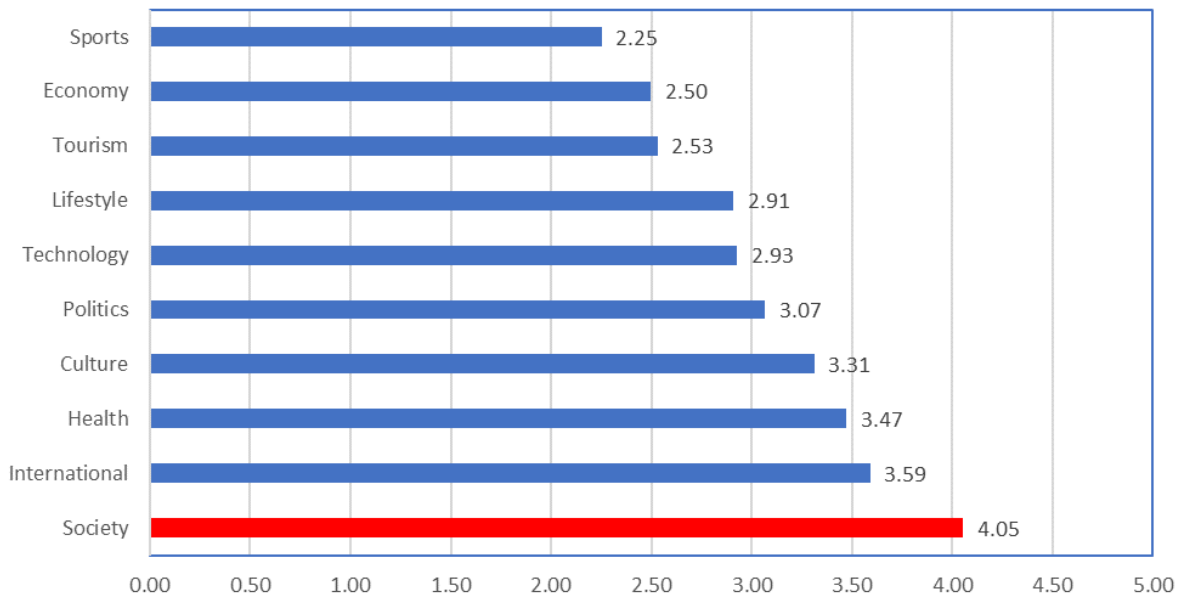
**Figure 2: Frequency usage of social networking services (Instagram, YouTube, Facebook, and Twitter).**

Next, the participants were asked to rate on a Likert scale (1-5) the sources they utilize to stay up to date with current news. Media websites appear to be the first choice of the responders with media organizations’ social accounts a close second. On the other hand, in the third place, it was found to be social media accounts of friends. In other words, social networking services are utilized by the participants, but the media organizations’ accounts are higher in preference than the accounts of friends. Based on that finding we can conclude that the participants utilize social media accounts to stay informed, but they exhibit a strong preference for official media organization accounts, which is an important factor in dealing with the problem of fake news (Katsaounidou, Dimoulas, & Veglis, 2018). It is worth noting that media organizations’ apps (for mobile devices) do not attract a significant percentage of preferences (see figure 3). This may be explained by the fact that media organizations in Greece have developed apps with very basic features.

Moving to the category of news participants are interested in, participants we asked to rate on a Likert scale (1-5) 10 different thematic categories on news. Society news was found to be the most popular category with sports the least popular. It is worth reminding that 73% of the participants were female that are usually not very keen on sports news and this might explain the previous finding of the survey. International and health (due to the COVID-19) and culture news exhibit high interest. Figure 4 includes the classification of all 10 news categories.



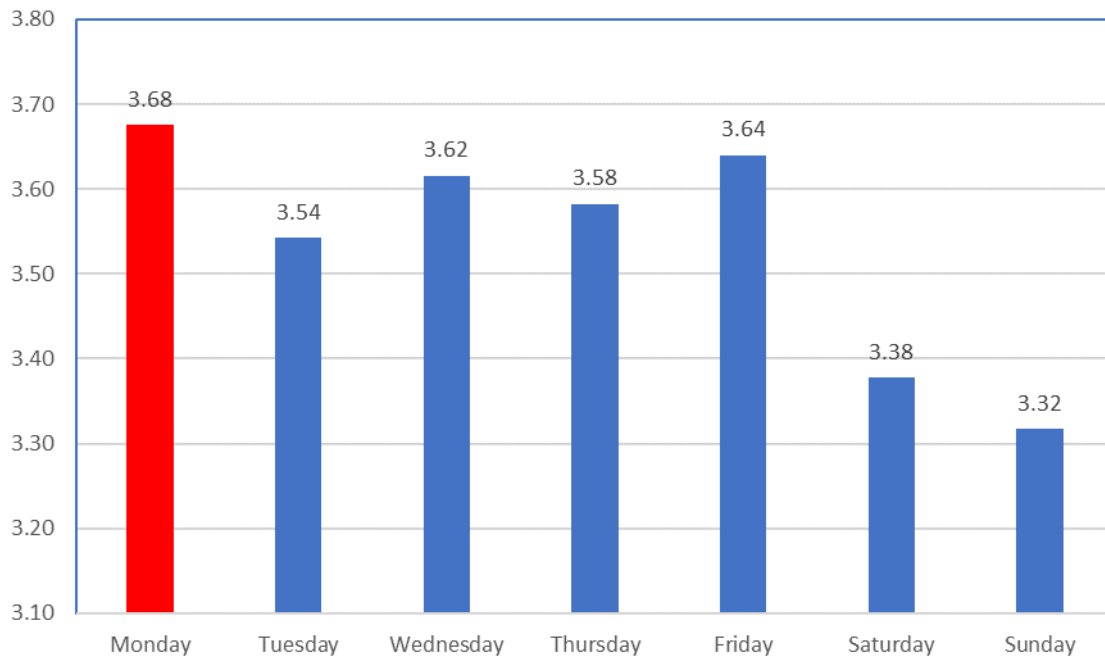
**Figure 3: Methods for staying informed on current news (Likert scale 1 to 5).**



**Figure 4: Consumption rates of different categories of news (Likert scale 1 to 5).**

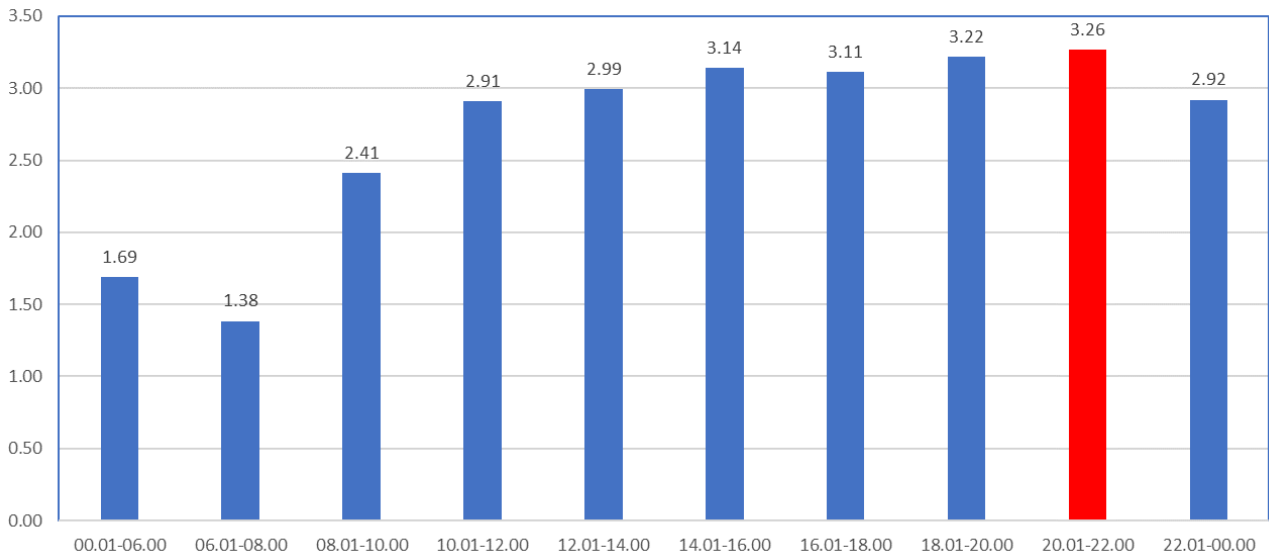
Next, the news-consumption behavior of the participants throughout the week was investigated. Specifically, the participants were asked to rate on a Likert scale (1-5) the probability of consuming the news each day of the week. Previous studies were reported a significant decrease in the readership during the weekend (Avraam *et al*, 2021; Veglis, 2012). This result was also found in our survey. In other words during weekends participants rated news consumption at an average of 3.35, while during the weekdays the average rate was 3.61 (roughly an 8% decrease). During the weekdays the rate fluctuates between 3.68 and 3.54. It is worth noting that Monday appears to be the weekday during which participants seem to be more eager to read the news while Tuesday is the day during which the participants appear to be less interested in staying informed. Also, Friday is the weekday with the second highest news consumption rate. Nevertheless, it is worth noting that the

differences during the weekdays and during weekdays and weekends appear to be quite small. All the previously mentioned results are included in figure 5.



**Figure 5: Consumption rates during the days of the week (Likert scale 1 to 5).**

The last topic that was investigated was the participants' consuming behavior throughout the 24 time period of a day. The day was divided into nine 2-hour time slots starting from 06.01 until midnight while an additional time slot was assigned to the 00.01- 06.00 time period. This choice was made to limit the time slots to some extent, thus facilitating in this way the entry of data by the survey participants. The results indicate that there is a significant change in the news consumption rate during the 24 hours of the day. Specifically, there is a 58% difference between the lower rate which is exhibited during the 06.01-08.00 time slot, and the 20.01-22.00 time slot, during which, the highest interest for news consumption is demonstrated from the participants. Although the highest value is exhibited quite late, it is worth noting that from 10.01 up to 00.00 (for 12 consecutive hours) the interest in news consumption remains high and almost constant. Another finding that is worth stressing is the fact that the lower consumption interest is to be reported during the 00.01-06.00 time period, but during the early morning period. This can be explained by examining the composition of the participants, where the majority of them are students that tend to go to sleep at the early hours of the day and wake up a bit late (Buboltz *et al.*, 2009). Another interesting finding is the period than the highest news consumption rate is exhibited. Especially in Greece during this period, the majority of the national coverage TV stations broadcast their main news bulleting (Maniou, 2013), although in recent years there seems to be a tendency to broadcast earlier. This fact may be related to the above findings since this period is strongly related to learning the current news.



**Figure 6: Consumption rates during different periods in 24 hours (Likert scale 1 to 5).**

## 5. DISCUSSION

Based on the results presented in the previous section it can be concluded that it is possible to identify distinct periods that exhibit different consumption patterns. The first thing that needs to be decided is whether weekdays and weekends should be considered as periods that exhibit different characteristics. Although weekends display a decreased rate of interest in news consumption, the existing data, and taking into account the relatively small drop of interest, do not justify proposing the distinction between weekdays and weekends. More specific related data needs to be collected to identify distinctive characteristics (category of news, consumption method, etc.) that weekdays and weekends may have.

Moving to the issue of determining dayparts in the news consumption during 24 hours, things appear to be clearer. Specifically, based on the findings the period from 06.01 to 12.00 displays a significant increase in the news consumption interest. During the period 12.01 to 22.00, the consumption rate does not appear to change considerably. It is worth mentioning that during this period the highest news consumption rate is located. Finally, from 22.01 until 8.00 in the morning there is a significant drop in the news consumption rate. Based on the previous analysis the study proposes a news consumption model that is comprised of three dayparts, namely morning (06.01-12.00), day (12.01-22.00), and night (22.01-8.00).

The proposed dayparts along with the data from figure 6 are displayed in figure 7.



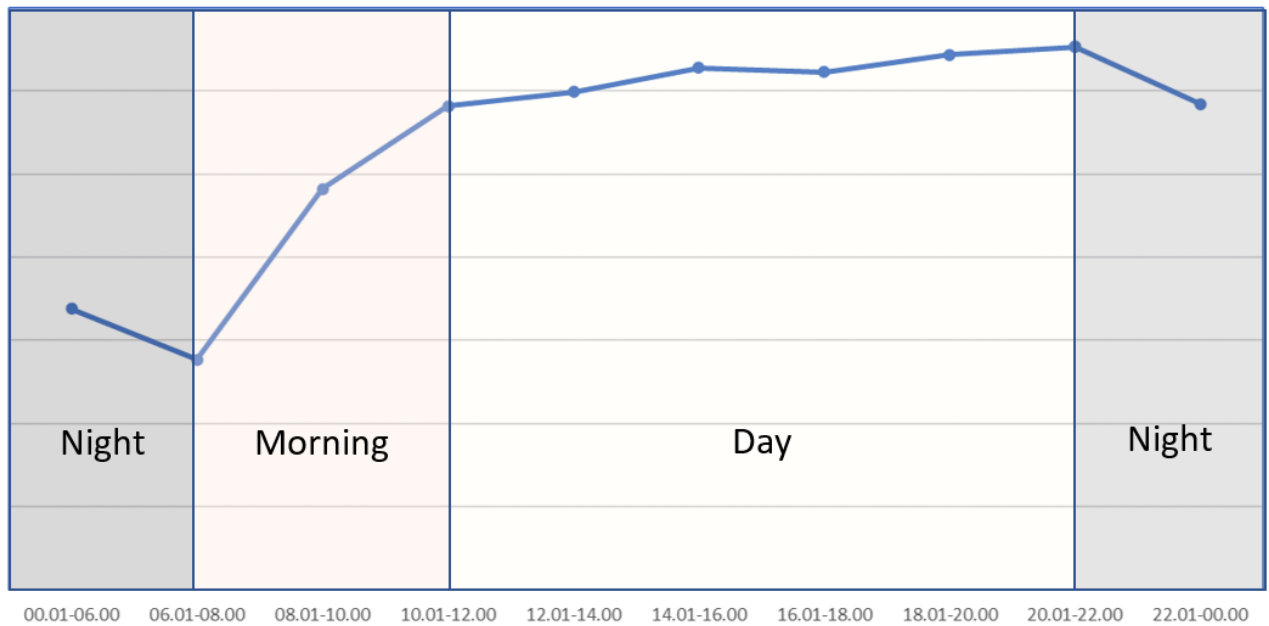


Figure 7. The proposed daypart model in comparison with the consumption data collected through the survey.

The proposed dayparting model includes only three dayparts in comparison with the 4-6 dayparts of the past proposed models. That makes it simpler to understand and use. In the last decade, there were significant changes in technology and the services people use to stay informed. The smartphone is one of the most important parameters that allow users to have direct access to information wherever they are. Thus, various dayparts that were associated with commuting, during which the news consumption was decreased are not applicable today. Also, the use of social networking services can notify users instantly about breaking news is now common practice (Veglis, 2012). This gradual shift to simpler dayparting models is also evident from Table 1 since the older a model is the greater number of dayparts it includes.

## 6. CONCLUSIONS

This paper has investigated the consumption habits of Greek internet users. Specifically, the study attempted to identify dayparts that are segments of time during which the audience exhibits homogeneous news consumption characteristics. The study adopted an online survey as its main data collection tool that was conducted among journalism and communication university students. This particular group is very interested in current events and are considered to be above average computing devices users. The findings of the study supported the formulation of a dayparting model that is comprised of three time zones, namely morning (06.01-12.00), day (12.01-22.00), and night (22.01-8.00). Also, the findings did not detect significant consumption patterns between weekdays and weekends, except for a small decrease in the interest in news consumption. One interesting characteristic of the proposed dayparting model is its simplicity since it utilized only three dayparts. The results of the study can be proven valuable to media organizations since they can fine-tune their publishing

program to match the users' news consumption habits, thus maximizing the teaching of their news products and increasing their revenues.

This study has also certain limitations. The number of female participants in the survey is 3 times the number of male participants, a factor that may influence the obtained results. Also, the participants of the study are mainly young people belonging to the 18-27 age group.

Future extensions of this work may involve a broad sample as far as age is concerned and also a more detailed study of other factors that may influence consumption patterns, like device used and utilization of specific dissemination channels (web, social, app, etc.).

## **7. ACKNOWLEDGMENTS**

This research was funded by Greece and the European Union (European Social Fund) through the Operational Program "Human Resources Development, Education and Lifelong Learning", in the framework of the Act "SUPPORT OF POSTGRADUATE RESEARCHERS - B cycle" (MIS 5033021) implemented by the State Scholarships Foundation (IKY).

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