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# RJSH

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**RANGSIT JOURNAL OF SOCIAL SCIENCES AND HUMANITIES (RJSH)**  
**Volume 5, Number 2, July–December 2018**

**Editor's Note**

The world is changing fast, hence we as human being as well need to change. There is an even better word to replace the word change. We shall call it as 'evolve'. We are already at the end of 2018 as well as entering the year 2019, as time flies fast without us being aware that it is not only about a different period of time. Instead, it is about to stay competitive and relevant, and not die in our own type of races. Evolution makes us unique, and capable to reach our specific goals.

This journal is already in its fifth year, though already considered mature and passed the introduction phase, still it needs such pushing factors to ensure its survival. To survive alone is not enough, thus that is why we do need quality papers to be included here, that will elevate our journal to become the same level as compared to the high rank journal out there. We are gratefully looking forward for unsung writers, both experience and younger generation to participate in this writing arena.

Parallel with the theme that uphold the strong spirit of survival and sustainability, we present you five (5) papers to be included in this second edition of 2018's journal. The first paper by Fabio Calzolari where he explores the asylum seekers of Syrian nationals who are in Italy, seeking shelter and new life to begin with. The paper discusses on the forced transnational migration and the resilience strategies beneath it. A sample of 30 unaccompanied male adolescents within the age range of 18-19 years was evaluated through individual in-depth interviews and psychological testing.

Next, we go to an issue that is concentrated on the accounting standards. Pandate Romsaitong is discussing on the agenda of modifying accounting standards to evolve with modern technology. The main gist of the paper is to study the trends in current literature with regards to accounting standards to address the improving accounting firms ability and IT competency standards in order to utilize the artificial intelligence (AI). This topic is quite new, as modern age company might want to have a more structured and comprehensive accounting standards, as nowadays technologies rapidly evolving and the latter also relates to the accounting aspects.

The third paper is focusing on Thailand's national policy in addressing migration. As per Numtip Smerchuar writing, the purpose of this paper is to examine the changes in the government effort concerning the migration policies. In short, the author wants the audience to provide a better understanding how the policy on migration issues has been addressed and adapted in different contexts from 1972 to up until the year of 2018.

Have anyone ever heard of Safe harbor law? Well, Bruce Weeks come up with a fresh discussion of safe harbor and copyright infringement on the internet. Basically, this issue is related directly to the internet intermediaries such as websites and search engines who hosted the content that could infringe the copyright that refers to the creator of the content. The author stresses that there should be a revamp of the existing law that addresses this issue, by discussing the contemporary issues as well as highlighting the importance of safe harbor protection to every stakeholders involved.

The last but not least article is written by the combination of Ahmed Ashoor and Kamaljeet Sandh, as the duo try to discuss an overview relating to the blockchain infrastructure acceptance in the Gulf Cooperation Council (GCC) countries. In short, GCC role is to nurture political and economic status of its country members. The council considered the blockchain infrastructure to facilitate the connectivity and cooperation between its country members and recognised the blockchain as a gamechanger for the future economies of the Gulf region since it give way for the use of cryptocurrencies.

Thus, we already finished introducing all 5 papers in this journal edition. At this point of time our editorial board trying their best by bringing all these papers to become parts of the journal, for the benefit of the readers. The papers need to be read with full focus and concentration yet it demands a good understanding by the audiences out there as they are produced with extra care and due diligence by the authors. Therefore, no page shall be skipped or being ignored by the reader out there. By being meticulous and giving ample level of concentration, then only we could gather a lot of information and knowledge, with this kind of in-depth reading.

In a nutshell, that is why journals such as RJSH exist: to create a bridge for knowledge-seekers (learners) with producers of knowledge (researchers). As the editorial team, we see this as our job: sharing new knowledge, including alternative ways of perceiving the complex issues that all of our societies face on a day-to-day basis.

We welcome your comments and, of course, your manuscripts. Links to our manuscript submission site can be found at RJSH Online Submission and Review System: [www.rsu.ac.th/rjsh](http://www.rsu.ac.th/rjsh). We look forward to hearing from you.

Sincerely,

A handwritten signature in blue ink that reads "Anek Laothamatas". The signature is written in a cursive, flowing style.

Anek Laothamatas  
Editor-in-chief

**RANGSIT JOURNAL OF SOCIAL SCIENCES AND HUMANITIES (RJSH)**  
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## Forced Transnational Migration and Resilience Strategies: The Case of Syrian Asylum Seekers in the Republic of Italy

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### Abstract

Within the field of anthropology of displacement, the research analyzes dynamics of resilience in unaccompanied asylum seeking adolescents. Specifically, by using a Social-Ecological Model (SEM), it investigates lived experiences, the process of “othering” and identity construction, in the autobiographies of Syrians hosted by the Republic of Italy. To do that, the author first examines the impact of war-induced displacement on mental health status (for example, Post-Traumatic Stress Disorder/PTSD, Major Depressive Disorder/MDD and anxiety). Next, migration as a cultural dynamism in which agency and social structures play interconnected roles. Finally, migrant’ self-reliance in situations of heteroglossia and heterogeneity.

A cohort consisted of 30 unaccompanied male adolescents with an assessed age of 18-19 years was evaluated through individual in-depth interviews and psychological testing. Results suggest that emotional disconnection, asylum status, alienation and cultural bereavement contribute to a psychopathology and thus difficulties in adjustment to life. The findings appeal to the Italian government to limit the scope for divergence in national approaches and to strengthen the legal framework for asylum procedures to ensure that the necessary safeguards are in place. Mental health workers and physicians should consider focusing treatments on both past-traumas and problems in living faced by asylees in the country of resettlement.

**Keywords:** *Asylum Seeker, Italy, Trauma, Resilience*

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### 1. Introduction

The scope of the study was to observe and evaluate how Syrian asylum seekers cope with life in the Republic of Italy (heretofore Italy) and how the latter prepares the ground for their future independency. In this scenario, it seems reasonable to conjecture that a good interplay of the micro-environment (the Self), the macro-environment (the local society surrounding the individual) and the the mega-environment (Culture, habitus) is the condition sine qua non to alleviate migration-related symptoms (MRS) and improve resilience. One major worry is that current forms of hospitality might fail to meaningfully answer the plight of thousands of migrants struggling to find housing and jobs. Whereas most contributors agree that system could be bettered, plenty of disagreement remains as to how this reform should be done.

As a key instrument, the following introduction will bring the reader to explore the epistemological underpinnings of the research. To facilitate critical insight, the opening part has been divided into five thematic loci: Migration, Syria, Post-Traumatic Stress Disorder, Resilience and The Italian Migration Reception System.

#### 1.1 Migration

There is a sort of inborn restlessness in the human spirit and an urge to change one’s abode; for man is endowed with a mind which is changeable and unsettled: nowhere at rest, it darts about and directs its thoughts to all places known and unknown, a wanderer which cannot endure repose and delights chiefly in novelty.

(Lucius Annaeus Seneca, 65 AD, *De Brevitate Vitae*: 4, translated by Williams, 2003)

The movements of people between areas has been a common phenomenon in all known civilizations: from ancient Greek colonies to modern Spain’ North Africa outposts, porous borders, have permitted interconnectedness and the exchange of material goods. In this sense, from a terminological perspective, the homo migrans (the man who crosses the boundary) has always co-existed with the homo-sapiens (the man

who uses the intellect). As stated by Sayad (2004), migrations of people can be divided into three specific components: pre-departure, in-transit and resettlement (Pottie et al, 2011). In *The Suffering of the Immigrant*, (Sayad, 2004), pre-departure is considered the phase in which individuals are in their home-countries, potentially facing social, religious or economic adversities. In-transit indicates the process of going from one area to another, over a period of time. Inhere, one of the most common pitfalls is cultural bereavement, as the loss of the “familiar” (identity, language, social structures and support networks). The settlement phase starts when migrants have reached a foreign environment and start negotiating socio-cultural boundaries. Whereas it is not possible to consider migrants as one homogeneous group, as conditions and aims differ widely, generally speaking, a person is either influenced by push factors (i.e. armed conflicts in the country of origin) or pull factors (i.e. economic incentives in the country of arrival).

During the last twenty years in Western countries, migration and its associated impacts on policy perspectives (Geddes, 2008), have spawned researches on micro, meso and macro level dynamics while prompting wide-ranging public debates. To a great degree, biased comprehension of the notion of identity have contributed to the making of negative myths around otherness. In this respect, imposed totalizing views of race and ethnos have perpetuated the embeddedness of membership in the exclusionary community of the nation rather than effectively promulgating enactments of inclusive civic state membership (Kymlicka, 1995; Bajt 2016).

Hollifield (2008) pointed to the emergence in Europe of an apparent hostility towards aliens who demand less restrictive immigration laws. One explanation could be that a lowering of requirements can cause the potential de-ethnicization of citizenry. In fact, according to the legacies of nationhood perspective, when citizenship attribution is a product of parentage/kinship (*jus sanguinis*) rather than birthplace (*jus soli*) or residence (*jus domicile*), turning the access to the community of stakeholders into a right, would create a hollowing-out (through procedurally thinning) of the meanings of state membership (Furia, 2005). Although there is little doubt that from its inception citizenship was an exclusionary category implying a coercive rule of members over strangers, Castells and Miller, argued that a union of people should be detached from the institutional functions of statehood. Because, as they suggest, participation in the public sphere require neither cultural nor moral homogeneity but first and foremost compatibility of political attitudes (Chwaszcza, 2009).

Aside statutes encumbering the transmission of community rights in the development of the European administrative state and nation building, scholarships indicate that the number of migrants is increasing all around the world (Carballo, 2001) with barriers erected by wealthier nations unable to keep out those from the global South. Comparisons of data from different years reveal that particular driving forces are epidemics, land alienation, lack of economic opportunities, ethnic conflicts and wars. Some people benefit from the direct involvement of NGOs (Mitchell, 1959). Others resort to clandestine networks (Salt & Stein, 1997; Väyrynen, 2005). Many chooses to move as a direct response to catastrophic situations (Akopari, 2000) while others in anticipation of future harm (Massey, 1997). Yet others remain entrapped in conflict zones (i.e. the Middle East) or in countries of transit (Hammer, 1997).

## 1.2 Syria

At the end of the Twentieth Century, North Africa and the Middle East, despite a plethora of signed agreements for citizen empowerment, were left untouched not only by political transitions from nondemocratic to democratic regimes (Huntington, 1991) but also by grassroots activism and mobilizing ideologies. In January 2011, however, the status quo was about to change abruptly. Inspired by the self-immolation of Tunisian street vendor Mohammed Bouazizi, citizens across the region took to the streets in an attempt to undermine the legitimacy of authoritarian rules. Despite the fact that the uprising began in Tunisia, it was the success of Egyptian (Facebook) campaigners in the overthrowing of dictator Hosni Mubarak (whose party was a cohesive machine, organizing intramural competition among elites, as zeroed in on by Khamis (2011) and El-Ghobashy (2011) that epitomized the coming-of-age of novel struggles (i.e. cyber-activism) for self-determination in Muslim milieus.

The wave of organized popular resistance and the power of non-partisan youth movements, in what has come to be known as the Arab Spring, was soon to play a significant role in another country, Syria.

It was during the Day of Dignity and Death (Jabbour, 2012), that antigovernment protests broke out.

On the heels of the Arab Spring in Egypt and Tunisia, in March 2011, protesters went to the southern city of Deraa to demand more constitutional freedom (i.e. press, speech and assembly), the release of people held incommunicado (i.e. students arrested for anti-government graffiti) and the termination of the (Ba'ath) one party system. Ignoring appeals to eschew violence, the government of president Bashar al-Assad ordered its security forces to quell public rallies with live bullets and teargas. Although the degree of violence is still unclear, witnesses reported that at least 15 people were killed (Solomon, 2013). Amidst growing tension, the violent crackdown on revolutionary intellectuals and activists kept going until July, drawing concern from the UN high commissioner for human rights and the USA (Donnelly, 2018). As of early 2014, the indiscriminate and uninterrupted shelling of buildings and the slaughter of people, generated an unprecedented irregular movement of refugees and migrants (Kvittingen, 2018) into neighboring countries (Turkey, Jordan, Lebanon, and Iraq) and Europe.

The Syrian Civil-War (2011-Present), alone, has displaced people on the same scale of the Second World War (1939-1945). With no solution in sight and millions of people uprooted (>4.1 were re-located into Turkey, Lebanon and Jordan), the conflict resulted in a complex humanitarian emergency with a dim prospect for a diplomatic initiative (Rabil, 2006). In particular, since the beginning of the unrest, Syrians have been victims of violence- and war-related injuries (van Berlaer, 2017), anti-immigrant, anti-Arab discourses (Ozden, 2013), inadequate sanitation and access to clean water (Saroufim, 2014), breakdown of immunization programs (Kherallah, 2012; Leblebicioglu, 2015), exposure to (chronic) infectious diseases (Leblebicioglu, 2015) and mental health abuses (Cousins, 2015). With the clash of arms, not confined to the battlefields, these conditions affected non-combatants and combatants alike.

### 1.3 Post-Traumatic Stress disorder

As stated in the Diagnostic and Statistical Manual of Mental Disorders/DSM (American Psychiatric Association/APA, 2013), post-traumatic stress disorder (DSM V-PTSD), is a mental health condition triggered by frightening or distressing events, or after a prolonged traumatic experience. Between the DSM-IV (1956) and the DSM-V (2013), the taxonomy of PTSD has been altered considerably (Pai, 2017). In that regard, changes include the relocation of PTSD from the category of Anxiety Disorders to the novel one of Trauma and Stressor-related Disorders with the elimination of subjective values and the adding of more specific diagnostic clusters. Notably, the PTSD is the only category (inside the DSM-V) that it is not grouped by the types of symptoms characteristic of the disorders in it (Pai, 2017).

As a rule of thumbs, among the general population, men tend to be more exposed to (men-made) traumatic events. However, women are (statistically) two times more susceptible to PTSD (Najavits, 1997). A number of characteristics have been found to contribute to gender differences in susceptibility. Among them, different appraisal of threat, the likelihood of peri-traumatic dissociation, coping mechanisms and collective support are considered the most influential (Bernat, 1998). Consistent with the literature and multiple baseline examination of clinical data (Colder, 2002), male subjects prefer using alcohol to increase high-arousal positive moods (drinking for enhancement) while female subjects use it to decrease negative effects of PTSD (drinking for coping).

Psychological distress in children and young adults exposed to military conflicts has been independently associated to mood and behavioral disorders (Thabet, 2008). Moreover, there is a clinical impression that a poorly integrated pre-neurotic or pre-psychotic personality concurs to a high incidence of mental breakdowns (significant levels for PTSS-16 and HTQ scores) under the impact of external/environmental stressors (Summerfield, 1999). Apropos of a psychiatric morbidity, studies indicate that civilian survivors who decide to abandon their home countries suffer from an additional triple injury: the experience of leaving, the physical journey and the struggle to integrate (Lie, 2001).

### 1.4 Resilience

Psychologists characterize resilience as a series of actions in which individuals show positive adaptation in the face of negative events and traumas (Goodman, 1999; APA, 2014). Although livelihoods have constantly adapted to change, psychological resilience has limits that can lead to debilitation and disorders.

There is an increasing trend in the literature towards understanding how human psychobiological apparatus (Coutu, 2002) operates and how it changes over time (Werner, 1989). Rutter (1990), Bronfenbrenner (1998) and Betancourt (2008), drew attention to the role of proximal factors (direct source of pain), distal factors (indirect source of pain) and (personal/social) locus of control. With respect to mainstream theories of behavioral adaptation and development, they emphasized the need of investigating the role of demographics (i.e. gender, age, ethnicity and education), resources and stress (Bonanno et al., 2007). Accordingly, a growing body of evidence (Başoğlu, 2004) suggest that patterns of association between various sociocontextual factors can predict resilience and related outcomes after disasters (Fredrickson, 2003). By the same token, trauma research underlines the value of schools, public care-givers and friends in resilience praxis (Werner, 2012).

### 1.5 The Italian Migration Reception System

In accordance with the Dublin Regulation No. 604/2013, Italy has the obligation to accept and evaluate asylum claims at airport and sea-land borders. The article 10(1) LD 142/2015 (Gazzetta Ufficiale Della Repubblica Italiana, 2015) articulates the reception system into 3 different levels:

**First AID.** At disembarkation, newly arrived migrants undergo mandatory medical (including laboratory testing) and psychological examination.

**First Reception Phase.** Individuals are brought to reception (state-funded regional hubs and/or EU-funded hotspots). Inside the facilities people are identified, registered and informed on how to lodge a claim for refugee or protection status, by volunteers of (national/international) NGOs and police officers (ECRE, 2016). Those who are considered illegal are sent to Centri di Permanenza e Rimpatrio (CPR).

**Second Reception Phase.** After being channeled into the appropriate procedure, refugees and asylees are referred to SPRAR projects (Protection System for Refugees and Asylum Seekers) whose scope is to assist those who fall under humanitarian emergency. Instituted in 2002 by L 189/2002, the SPRAR is a second-line structure and it is managed by municipalities. In contrast with other European country (like Germany), in Italy there are no equitable distribution and minimum threshold standards because local authorities are granted the right to refuse participation and/or adopt different measures for immigration management (Leo, 2015). Based on the specifications of Decree-Law 193/2016 municipalities are entitled to receive monetary benefits (€500/asylum seeker).

## 2. Objectives

On the one hand, the study aimed to discover if past-traumatic experiences, worries about asylum procedures, lack of status and cultural discrepancies between home and host countries are important risk factors for the development of a psychopathology. On the other hand, it sought strategies for increasing the likelihood of socio-economic success across Syrian asylum seekers. Following from Goffman's promotion of micro-analysis (1983), it also encouraged more rigorous reporting of future studies to better represent public and personal dimensions in migrant identity construction.

From theory to practice, the enquiry can be considered important because, with the growing globalization of human capital, analyses of patterns of migration and needs in newly arrived individuals, facilitate knowledge-based decisions across governments.

## 3. Material and Methods

The research attempted to identify resilience and vulnerability in Syrian asylum seekers (time spent in Italy  $\leq$  8 months) via an analysis of spoken autobiographical narratives. Specifically, the approach, inspired by a social ecological model (SEM) sought to understand and mitigate individual behaviors. The cohort consisted of 30 unaccompanied male adolescents with an assessed age of 18-19 years, recruited between September and January 2018, from three SPRAR reception facilities (two in South Italy and one in North Italy). All subjects were referred from employees who obtained their written informed consensus. Due to the need to explore a complex issue it was decided to combine semi-structured face-to-face interviews with short

psychological batteries (Denscombe, 1998). In order to guarantee correctness of information, all items and questions were translated from English to Syrian (and back into English) by two different interpreters.

To safeguard anonymity among respondents (biographical narratives could trigger the production of negative self-admissions as explained by Liamputtong 2007 and Pickard, 2016), names, birth dates and addresses were not saved. Instead, the researcher made use of alphanumeric codes at the point of transcription (Clark, 2006). Likewise, to avoid security breaches, all digitalized materials were encrypted and stored in a hard drive inside a locked room. However, knowing that a complete de-identification and perfect security are virtually impossible (Hoonard, 2003), participants were made fully aware of the risk of an accidental deductive disclosure (Tolich, 2004; Saunders, 2015) and of data theft.

To obtain thick information and reduce response error, between 1 and 2 sessions were used for biographical investigations (exile situation, socio-demographic background, coping mechanisms) and the completion of standard screening tests for health-related quality life. The latter part involved the use of Trauma Screening Questionnaire (TSQ-10), Hopkins Symptoms Check List 25 (HCSL-25) and the Posttraumatic Symptom Scale (PTSS-10). The rationale for the diagnostic classification was given by the Diagnostic and Statistical Manual of Mental Disorders, Axis I and Axis V (DSM-V; APA, 2013). Collected raw material were analyzed by Nvivo qualitative data analysis computer software (QSR, 2018). The adaptation of the IT tool was motivated by its ability to facilitate handling of administrative tasks and presentation of findings (Hutchison, 2009).

#### 4. Results

In the asylum seeker quota more than half of the subjects (63.3%) showed post-traumatic stress disorder (PTSD) as a first diagnostic category. This is not uncommon because war and forced displacement are connected to a high burden of psychiatric morbidity (Karunakara, 2004). Apart from PTSD, the other assessed categories, were major depression (46.6%), generalized anxiety (40%) and adjustment disorders (36.6%). From narrative data, it is emerged that all of the subjects *claimed* a history of interpersonal trauma in their home-country. In that regard, the concept of trauma (APA, 1980: 236; Oltmanns, 2007:217) involved aspects like forced separation from families, political persecution, witnessing warfare and being a victim of direct physical and/or psychological hostilities (Macksoud, 1993).

Irrespective of the degree of traumatization in the past, other stressors damaging psychosocial functioning and adaptation to exile were the immigrant status and a perceived loss of identity. These phenomena could constitute an emotional reaction to the discrepancy between reality and preconceived expectations (Bhugra, 2004; Ingrid, 2015:16). Regarding the development of a co-morbidity of mental disorders, longitudinal studies (Al-Issa, 1997; Hattar, 1995) suggest that cultural assimilation could de facto ignite personality disintegration, if traditional mental schemes are not maintained (Stanley, 2010). Interestingly, disturbances in individual-adaptation (with a notion of Self collectively modulated), when external and internal coping resources are scarce, can be explained by an acculturative stress model (Grippo et al., 2003) and anger-frustration theory (Dollard et al., 1939).

Article 22(3) LD 142/2015 states that asylum seekers have the right to seek a job (albeit only in some specific areas), receive internships, vocational training and other educational courses (AIDA, 2018). The law is of relevance because schooling and working promote individual independence (Sidhu, 2011). Additionally, they both facilitate integration. Therefore, subjects' involvement in activities were checked. At the time of referral (January 2018), it was discovered that 60% of asylees took part at vocational trainings and 70% follow a course of Italian language. Notwithstanding the openness of the labor market, none was employed due to insufficient linguistic proficiency.

Concerning protective psychological mechanisms, as part of their livelihood strategy (i.e. against environmental stressors and moments of grief), the 83.3% of the interviewees found relief through the help of religion. The relevance of spirituality and Faith, in relation to daily activities, problem solving strategies, and mood variables has been acknowledged in the resilience literature (Alcorta et al., 2006; Crawford et al., 2006). These findings do not support that religiousness, in the process of dealing with problems, per se contributes to optimism (Pargament et al., 1997; Aflakseir, 2016) but that only those who experienced a credo in a positive and proactive way (which stresses personal agency), by seeking comfort and/or guidance, benefitted from it (i.e. benevolent reappraisal of a tensed situation).

## 5. Discussion

In the last few years, cross-sectional epidemiological testing of Syrian, Iraqi and Afghan individuals in exile, have tried to delineate distinctions between forms of psychological suffering with psychosomatic complaints and frank mental disorders. By means of interviews, attempts have been made to co-relate socio-demographic data with self-reported symptoms of post-traumatic stress disorder (PTSD), depression and anxiety (self-rated health status). In the ideal circumstance, a comprehensive and clear array of psychological indicators have been always possible but in the case of asylum seekers and refugees, illiteracy, severe physical trauma, psychogenic amnesia or lies to avoid deportation, have complicated the evaluation of behavior change domains.

Although there is continuity in prosocial and antisocial behaviors across generations of native-born Italians an exception can be found within the immigrant communities. This is known in the academic parlance as the immigrant paradox, whereby first-generation immigrants display less criminogenic and dangerous behavioral outcomes than natives, in spite of relative socioeconomic disadvantages and risk factors (Vaughn et al, 2014). Apparently, the non-nativity shield immigrants against involvement in a wide range of antisocial acts. While it is true that the paradox works for newly arrived individuals (often out of fear of being imprisoned and/or expelled), there is no intergenerational continuity in the reductions in criminal behavior. This suggests that the mechanisms that serve to decrease the odds of illegal and anti-moral are attenuated when immigrants increase their assimilation to the host culture (Abraido-Lanza et al., 1999) and nihil in follow-on generations.

In Italy, SPRAR projects promote, through third sector actors, international protection across migrant communities, from integration to inclusion. In specie, they offer to refugees and asylum seekers legal counselling, social secretariat, intercultural mediation, and assistance in accessing the labor. While no-one disputes the obligation of Italy to protect those in need, the question for many critics is whether other acknowledged democratic citizenship rights should be offered to those who do not belong to the demos, as it was put forward in the abstract universalism of liberal discourse (Soysal, 1994).

## 6. Conclusion

The current inquiry highlighted probable post-traumatic stress disorder (PTSD), major depression (MD) and anxiety symptomatology, in the control subjects. Mental status that, according to current literature on human displacement, are clearly associated with a past of psychical and emotional abuses. With respect to quality of life, religion has been noted influencing immigrants' ability to cope with traumas and acculturative stressors.

From the perspective of the author, asylum seekers should be carefully evaluated, upon arrival in a host country, and physicians should be aware of the high incidence of unspecified somatic symptoms in this patient population (Pfortmueller et al., 2016), to provide better assistance and protection. Progress has been made, however considerable challenges remain, particularly with regards to (non-emergency cases of) psychiatric features in high-functioning adults. In that regard, the possibility of transcultural education, including rationales for the reality of pain and human suffering, in the formal training of caregivers, would facilitate epidemiological analysis, medical diagnosis and treatment adherence.

To conclude, there is a hope that the research has established the legitimacy of mutual help as a social strategy and the therewith presumed usefulness of long-term solidarity between migrants and majority groups. The way in which Italy will develop the aid regime and how it will smooth the divide between national agencies and clients is an area for further investigation.

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## Modifying Accounting Standards to Evolve with Modern Technology

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### Abstract

The purpose of this qualitative study was to identify trends in current literature regarding accounting standards to address the improving accounting firms' ability and IT competency standards in order to utilize artificial intelligence. Artificial intelligence (AI) is likely vital to the success of accounting standards. However, if these standards enforce the use of technology without ensuring that businesses have appropriate resources then they will be pointless. The methodology of this research follows the formula of many qualitative studies that utilize content or thematic analyses. Scholarly databases such as ProQuest were searched for articles possessing the keywords 'artificial intelligence' and 'accounting standards' and 'accounting technology' for some. Numerous academic journals, historical texts, firm reports, and news reports were accessed. The results indicate the need for modified accounting standards. The need to use artificial intelligence (AI) and evolving technology can either mitigate or perpetuate resource issues. While there is a fear that technology will replace the accountant, there are many ways in which technology will simply make accounting easier. Cloud computing and real-time financial reporting/credit loss prediction models are promising uses of artificial intelligence. The use of accounting information systems (AIS) in the future of accounting standards will be vital to meet the new technological needs of modern businesses. To effect accounting standard changes that will benefit enterprises and financial institutions, the issue of access to AI must be addressed before the argument for AI technology and resource management can be seriously considered.

**Keywords:** *accounting standards, financial reporting, artificial intelligence (AI), financial institutions, cloud computing, accounting information systems (AIS)*

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### 1. Introduction

This paper first and foremost analyzes the research question of whether or not accounting standards should be modified to satisfy business needs spurred by evolving technology. Financial reporting, known as the language which "communicate[s] information about the financial condition of a company," exists as physical representations of finances in the form of balance sheets, income statements, and more (FAF, 2018, par. 1). Accounting standards are the guidelines and rules, which determine how the language is written; the U.S. calls this Generally Accepted Accounting Principles (GAAP). When accounting standards are of a high quality—they are evolving with emerging needs and technology—businesses receive more accurate information and make better financing decisions, which leads to investor confidence.

The objectives of this research study reflect the need to address deficiencies within the realm of accounting standard design and evaluation. The chief objective is to explore what weaknesses lie in the development and application of these standards and what perceptions from the accounting industry are potentially causing these issues. Specifically, the paper will address the role that accounting information systems (AIS) plays, or could play, in current accounting operations and whether or not accounting standards are currently capable of utilizing this new technology. The guiding research question will be whether or not accounting standards should be modified to evolve with technology and if AIS technology can be used to solve current problems.

Historically speaking, financial reporting has affected U.S. economic growth since even the Industrial Revolution, and these patterns exist overseas as well (Unegbu, 2014). Accounting standards have long been divisive, with many changes implemented to alter how companies can and cannot do business with each other and sell goods and services to consumers; accounting for business combinations has been particularly difficult since before the 1970s (Ramsey, 1977). Yet, experts generally agree that accounting standards must shift overtime in fact, they are changing at this very moment. Some researchers believe that standard changes can even alleviate some abuses and credit losses in accounting (Hartgraves & Benston,

2002); the secret to the success is almost always the use of technological advancements that lead to greater accuracy and real-time reporting for financial institutions. AI is perhaps the advancement that changes the industry most. Because of AI, computer can do things that previous only a person would be able to do. This has significantly changed the industry, because computers are taking up tasks accountants do, and rendering much of the work they do obsolete.

Ultimately, modifying accounting standards is beneficial and necessary, but some might question the role of technology. As the firm Deloitte reports, recent changes to revenue and leasing accounting standards will lead to greater compliance, collaboration, and financial evaluations which will lead to better financial decisions (Deloitte U.S., 2018b). This means that accountants and auditors are in an unprecedented position. It may look as though it will change the accounting standard, but it really refers to the idea that accountants, auditors will have to change the way they go about their jobs. They will have to adjust to artificial intelligence and other new technology. Accountants may worry about being replaced but there is always going to be new technologies developing so they will adjust. It is possible that because of this there is a fear existing within the field that has hindered research in this area. This paper seeks to observe research reports regarding this topic and make suggestions as to the possible ways in which accounting standards can be modified to effectively utilize artificial intelligence technology for businesses.

When it comes to addressing some deficiency in the space of finance research business management strategies the first thing we seek to do is acknowledge how the landscape of the industry has had to evolve. As Ransbotham, Kiron, Gerbert, and Reeves (2017) discuss in their report, the business and finances world first have to define how emerging technology such as artificial intelligence fits into their models, the business practices and the accounting standards to monitor the financial outlook of those companies. The importance of this identification, and the chief reason why such research must be conducted, is because of reports such as theirs which noted that 85 percent of executives across the nation believe that AI will change the way they do business, and thus accounting standards must undoubtedly evolve as well.

Recently there has been an increased need to evaluate accounting standards and how to handle the rules regarding financial reporting in the age of artificial intelligence. In fact, in 2014 the Financial Accounting Standards Board (FASB) announced new changes to the GAAP which could create a volatile environment (Tilley, 2017). Most of these changes are impacting how executives do business such as the promotion and sale of goods and services, as the Wall Street Journal reports (Shumsky, 2018). One change that could have technological implications is the credit loss standard which measures credit losses on financial instruments. Current GAAP requires that companies report credit loss costs with the incurred loss model that delays recognition until it determines that a credit loss is probable (Tilly, 2017). The changes will require financial institutions to immediately record estimated losses in loan portfolios. One way that accounting standards could evolve to better serve financial institutions and efficiently utilize artificial intelligence is to create a model which accurately predicts credit losses for the financial institution.

## 2. Literature Review

While there is significant scholarly research on this topic, there is little evidence that academics and professionals are analyzing the need for accounting standards to utilize artificial intelligence to better aid financial institutions with their financial reporting duties. As the accounting professor, Muhammad Islam states in his article (2017) emerging smart and digital technology will pose challenges for the profession if accounting standards do not evolve. This could very well be the case as digital technology and other emerging smart technology will greatly affect how accounting firms conduct business. It could shift how they record business transactions for instance Islam also states that new technology will replace the old way of doing business. Also these new technologies will make outsourcing even easier. Social media will also reveal more data promoting stakeholders to utilize the tools of social media to interpret “big data.” Social media gives more information to the consumer than consumer reports and corporate press releases. They face more informed customer.

Several researchers have questioned how the information age and the prevalence of ubiquitous data impact accounting standards and auditing standards. Data inundates investors and current accounting standards are, according to Krahel and Titera (2015), not keeping pace with modern technology, instead focusing on “presentation, aggregation, and sampling” (Krahel & Titera, 2015, p.1). They and other

researchers such as Huerta and Jensen (2015) believe that accounting and auditing standards should emphasize “data, the processes that generate them, and their analysis, rather than their presentation” (Kraheil & Titera, Abstract, 2015, p.1). Meanwhile, Huerta and Jensen (2015) focused on the impact of artificial intelligence on automation in the accounting industry, which Moffitt, Rozario, and Vasarhelyi explain has been bolstered by robotics (2018). This, by extension, reveals an anxiety of researchers and field professionals in finance.

While it is easy to identify a failure to modernize accounting standards as a crucial issue, the underlying forces which perpetuate this inefficiency must be uncovered to provide explanations and solutions for the issue. In 2010, William Niskanen, former chairman of President Reagan's Council of Economic Advisers, wrote an article published with the *New York Times* that detailed several concerns and issues regarding the current accounting standards. According to Niskanen (2010), the primary issue with accounting standard theory now is that is deciding “whether accounting standards should continue to be set by the [FASB] and approved by the Securities and Exchange Commission (SEC)” (par. 1). He outlines three reasons for why the FASB and the SEC should no longer be in control of accounting standard guidelines and regulations (Table 1). The attributes of versatility, timeliness, and advantages and disadvantages are outlined and described in the following order of importance. Also, the SEC and the FASB are growing less and less powerful because they watch over less and less of the money. Technology is making it easier than ever to outsource service to India and China, where it gets much harder to monitor business practices.

**Table 1** Issues within the operations of the FASB and the SEC, from Niskanen (2010)

<b>Reasons for Change in Accounting Standards</b>		
<b>Attribute</b>	<b>FASB</b>	<b>SEC</b>
<b>Versatility</b>	The FASB establishes all accounting standards that are to be used by firms regardless of their makeup, purpose, or intent. Niskanen argues that there is little to no obvious reason why, or evidence to suggest that one set of fixated accounting standards would be appropriate for use by all types of firms. This limits their capabilities to monitor their finances and maintain professional standards if the practices they have to follow are not applicable. Thus, the issue of modernizing accounting standards is not simply whether AIS is effectively being used or not, but rather the issue is much more ingrained and formative. If the very guiding notions of accounting standards or the theories behind their creation are not adapting to modern needs then it begs the question of how we possibly expect modern technology to be used effectively.	The SEC's primary responsibility is to protect financial investors while maintaining the function and fairness of security and exchange markets and facilitating the generation of capital. Regardless of what the FASB puts forth, it is not necessarily in the SEC's best interest to commit to accounting standards that are potentially not beneficial for all firms. There is no evidence to suggest that accounting standard boards have an advantage over the SEC with regard to setting accounting standards. Also, Congress does not have any advantage either.

<b>Reasons for Change in Accounting Standards</b>		
<b>Attribute</b>	<b>FASB</b>	<b>SEC</b>
<b>Timing</b>	Another issue that the FASB has been known to run into is the issue of timing. According to Niskanen, the FASB is at times slow to develop accounting standards that are applicable to new and innovative types of technology for financial transactions such as mobile payment applications like Apple Pay, Android Pay, Samsung Pay, etc. This means that accounting standards in the U.S. become “unusually complex” and “vulnerable” to interpretation that is mostly subjective; this, in turn, makes it susceptible to controversial accounting doctrines (Niskanen, 2010, par. 3)	If the SEC upholds or approves accounting standards that are beneficial and meet the technological innovation that prompted their creation than the SEC is doing its job and meeting its own responsibilities. If the SEC fails to approve accounting standards that do align with new technology for financial transactions than these new methods will lack adequate accounting standards; furthermore, if the SEC fails to approve the FASB standards in a timely manner then this can compound upon the issue that the FASB is known to churn out new accounting standards slowly. Effectively, both authoritative agencies will fail to operate efficiently.
<b>Advantages</b>	The FASB is in the powerful position of setting accounting standards that can either benefit or harm firms if they do not meet the new technological needs of the industry. Unlike the SEC, which has no significant advantage when it comes to evaluating the standards, the FASB can take the advice of the SEC and put it toward new endeavors and ensure that new accounting standards are approved; this is particularly important when the SEC has declined the accounting standards because at this stage the FASB must draft new guidelines. The FASB is at times at a disadvantage because they have a more narrow view of standards, and thus they can be hard to convince of the need to establish unique and innovative accounting standards for modern technological advances.	As Niskanen indicates, the SEC chiefly interprets the current political demands for financial standards to keep the balance and protect the efficiency accounting across sectors and industries. However, they lack any particular advantage when it comes to reviewing and approving changes made by the FASB as they are supposed to assess the functionality of the standards and this is subjective; for example the SEC once straddled the issue put forth by Congress to “study the comparative value of rules-based and principles-based accounting” (Niskanen, 2010, par. 4). Furthermore, the SEC endorses a more objective point of view but they fail to define what that entails.

### 3. Methodology

The goal of the research was to understand how technology is currently being used, how it might be used but is currently not being implemented, and if such changes really need to occur to evolve accounting standards. The process of determining whether accounting standards should be modified to suit evolving technology by utilizing artificial intelligence first and foremost began with research regarding the uses of technology in accounting and financial reporting. After researching the current accounting standards and GAAP changes that have taken and will continue to take place within the next few years the author began to notice gaps where artificial intelligence was not being used to the fullest capacity such as for credit loss models. During this process, a number of resources were used to develop a comprehensive perspective of the topic, including the Journal of Accounting Information, the foremost journal in the accounting field. It was essential to establishing the validity of AI in the AIS field.

#### 3.1 Methods

The study itself is more appropriately described as a content analysis or thematic analysis qualitative study. The definition of a qualitative study is one which evaluates qualitative data and the content of the materials to assess the emerging themes, and qualitative data is that which provides insight into the problem, the causes of the problem, and how the study participants relate to the problem. Thus, qualitative research is the “systematic inquiry into social phenomena in natural settings” (Teherani, Martimianakis, Stenfors-Hayes, Wadhwa & Varpio, 2015, p. 669). Qualitative data analyses are subjective because the researcher or scholar

is actively interpreting the data to determine what patterns exist. The subjective nature of qualitative studies sets them apart from quantitative data. For this study, an analysis of current literature as the primary source of data makes it appropriate for a qualitative data analysis.

### 3.2 Materials

When selecting what type of qualitative data analysis to conduct, one must assess each in relation to the objectives of the study. The research goal of the study is to identify trends in current literature on accounting standards in order to do several things: 1) to determine deficiencies in current literature and identify what gaps exist that need to be satisfied with future research; 2) to determine what the current literature says about accounting standards and whether the recommendation is that they need to be modified to fit new technology avenues; 3) to determine if the use of AIS or artificial technology methods are a topic of interest as far as actual application in accounting beyond simple theory—essentially, does the literature suggest ways that AIS can legitimately be used to make accounting standards more effective?; 4) and to assess in general the future direction of firms to determine if there is a legitimate need to incorporate and use AIS technology in new accounting standard modifications—essentially, are businesses moving from less physical and more digital operations to the degree that not using AIS technology would be a setback?

Given these research goals, the methodology includes the research of scholarly databases for the purposes of identifying key literature on the subjects of both AIS technology, current accounting standards, and recommendations for accounting standard improvements. The databases for this research largely consisted of the American Accounting Association, Science Direct, and ResearchGate, with the former used primarily. Some of the most heavily used journals were the *Journal of Emerging Technologies in Accounting*, *Accounting Horizons*, *Procedia Technology*, and the *Research Journal of Finance and Accounting*. Other sources such as news outlets including Wells Fargo resources and the *Wall Street Journal* were analyzed to determine the timeline of changes to accounting standards as well as to document concerns of executives with the status of accounting standards going forward. Some academic resources were used for background research and other field information without the addition of unnecessary references and citations.

This is a qualitative research study which means that the data analysis of the gathered materials must include a data collection process that facilitates the subjective inquiry of the researcher. First, the materials must be selected based on their merit to the issue, which entails isolating articles that refer specifically to the issues addressed within the study. For this study, articles with the keywords artificial intelligence and accounting standards were selected, and those which included both keywords were preferable but for separate analyses given the varying objectives.

Next, the articles were read several times and coded using professional qualitative data analysis software such as Atlas.ti. These tools provide the option of coding written content to determine trends within the data itself and across the selected literature. In this case, the identifiable trends which the researched expected to see were going tone similar to the literature review previously conducted, only the discussion would include the importance of AIS and its possible uses for facilitating efficient accounting standards and practices; more specifically, the idea is that accounting standards should support the evolving technological needs of the industry and include guidelines for AIS use. Finally, the results of this codified data were written up and presented as the following content analysis for this report.

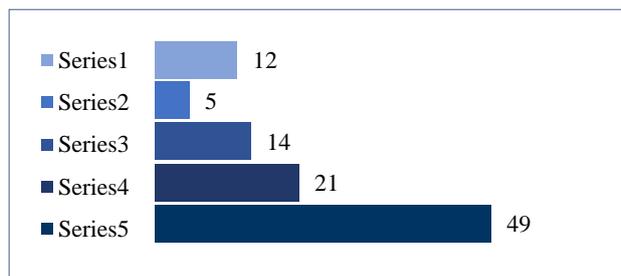
## 4. Results and Discussion

Before addressing the issue of emerging technology in accounting and how to address change, the research aim first must be to address not only what changes are occurring for accounting standards but also to identify the anxieties and opinions of financial institutions and executives. New revenue recognition standards will change how businesses conduct contracts with customers and it will improve disclosure and transparency (Deloitte U.S., 2018a; Ostiller, 2018). The ultimate goal of this new change is to remove inconsistencies with the treatment of revenue, which technology can do.

However, other new changes such as leasing accounting standards are in a difficult space. According to Michael Cohn from Accounting Today, public companies which will have to comply with new leasing accounting standards will face technological hurdles, including “new data elements, data housed in various systems, relevant information being spread across multiple lease agreements, a high volume of data fields,

and multiple languages, contracting parties and currencies” and a lack of electronic lease agreements (Cohn, 2018, par. 2).

While the issue with leasing agreements is only one problem among many the implications are vast. Statistical information from the firm Deloitte suggests that executives have concerns about how the leasing accounting standards will be implemented because the small businesses do not have the resources needed to comply with them or the technology that would make them easier to deal with. Figure 1 depicts a graphical representation of the data gathered concerning feelings about the changes to leasing accounting standards.



**Figure 1** Data collected from the firm Deloitte U.S. indicating executive concerns about accounting standards (Deloitte U.S., 2018a; Deloitte U.S., 2018b)

This is one example of the ways in which certain procedures and processes that do not evolve with time—adjusting with technology and the shifting needs of financial institutions—fail to help the accountants do their job well. Belfo and Trigo (2013) describe Accounting Information Systems as a “computer-based method for tracking accounting activity in conjunction with information technology resources” (p.537). This domain is moving away from a focus on enterprise resource planning to a modular approach where business intelligence and balanced scorecards now play an important role; the need for accounting standards to reflect the need for technology to facilitate these changes will be discussed herein.

After following the methodology and analyzing the materials several conclusions can be made regarding the need for accounting standards to adapt. The reason for this is because professionals in the accounting and business field have accurately predicted and will continue to do so that technology will change the way we do business, and thus it will change the way businesses are run. Many reports suggest that the progressive evolution of technology will specifically impact such processes such as auditing which may improve with faster, “smart” devices and large storage spaces (Fisher, 2004; Issa, 2016). A search for articles from news outlets such as the *Journal of Accounting* showed a trend in the topic of artificial intelligence as a revolutionary force in accounting.

Sarah Ovaska-Few (2017) provides a comprehensive overview of the impact of artificial intelligence in the accounting field that we can already see. In general, the benefits largely consist of the ability to collect and analyze big data and store it in a way in which the data can be easily and swiftly accessed. Instead of focusing on the potential threat of technology to job security, the emphasis needs to be on the ability of accountants to effectively manage the technology. As Ovaska-Few (2017) states, small businesses are especially vulnerable if they do not adapt their own practices. By enforcing changes to accounting standards the FASB can provide GAAP policies which benefit financial institutions and businesses. Creating automatic credit loss prediction models and utilizing the ability for artificial intelligence to collect data like a spreadsheet are just examples of a way in which artificial intelligence can be used and is currently being used, respectively.

Perhaps the best way to use artificial intelligence is via a process known as cloud computing, but there is an infinite number of ways in which technology can and should be utilized. As Trigo, Belfo, and Estébanez (2014) discuss, one of the many ways in which accounting standards need to evolve is to focus on requiring real-time reporting rather than periodic reporting, predictions of future credit losses not assessments of the damage after it can no longer be planned for. The nature of accounting is to provide accurate financial reporting for financial institutions to be able to make sound economic decisions, and new technology including artificial intelligence can make a significant difference. Table 2 breaks down the six areas in which

Trigo, Belfo, and Estébanez (2014) believe that technology can bridge the gap to make real-time reporting less of a hassle, transforming the different technological advances into methods for growth.

**Table 2** Six Opportunities for AIS growth and utilization in accounting, from, Trigo, Belfo, and Estébanez (2014)

<b>Opportunities for Artificial Intelligence Growth in the Accounting and Finances Field</b>	
<b>Business process management</b>	Business process management (BPM) focuses mainly on the issue of providing businesses the ability to monitor and optimize processes; today, Business Process Management Suites (BPMS) now include modules specifically the Business Activity Monitoring (BAM) which can provide real-time dashboards for monitoring processes.
<b>Mobile devices</b>	Mobile devices such as smartphones are an integral part of modern business processes, and the accounting standards should reflect the unique reporting format; As Trigo, Belfo, and Estébanez (2014) explain, mobile information should be based on metrics—such as key performance indicators (KPIs) (p.123) and show the information in a graphical way to allow for the most accurate interpretation of the information’s importance for the accountant.
<b>Cloud computing</b>	Cloud computing is unique because not only does it describe the universal data sharing services of modern software but it also exists as a singular technological capability on its own; cloud computing capabilities mean that a business can easily implement real-time reporting and increase collaboration with embedded social tools; additionally, cloud computing exposes the need for accounting standards to evolve in order to make Accounting Information Systems (AIS) accessible to all enterprises, both large and small formerly the small enterprises suffered from a lack of resources and thus could not access AIS (Kordecki & Bullen, 2014).
<b>Business Intelligence</b>	Business intelligence projects include two main activities: data warehousing and enterprise reporting or predictive analytics. Defining metrics and the selection of the most adequate visual representations of information are objectives of business intelligence.
<b>Enterprise Architecture</b>	Enterprise architecture mainly refers to the organization of the enterprise as it is defined by its components, how they are working with and building upon each other, and whether the principles guiding its design and evolution is effective and evolving as necessary. For accounting standards, enterprise architecture is an important concept because components such as business reporting language need to evolve with technology, and if the standards do not require enterprises to evolve their business processes then their real-time reporting capabilities will be compromised.
<b>Enterprise Application Integration</b>	Enterprise application integration is essentially how the applications which coexist within an enterprise’s business processes work together and how this impacts the enterprise architecture.

Building off of what Trigo, Belfo and Estébanez (2014) discuss, other researchers emphasize the need for accounting standards to not only evolve to effectively utilize artificial intelligence but to acknowledge the differences in resources for enterprises. As Kordecki and Bullen (2014) note, small businesses have long been at a disadvantage financially, thus with fewer resources and less access to tools which might allow them to make better economic decisions, there will always be a discrepancy. Cloud computing is just one technological advancement which negates some of these differences. This allows smaller firms to better compete with larger firms, and smaller firms might be more flexible with developing accountants that can handle the new technological aspects of the job.

Finally, there is another area in which accounting standards could potentially evolve to suit emerging technology. Auditing technology has consistently been structured; audits themselves provide a business or financial institution with actionable insight into their financial stability (Kinney, 1986). In recent years researchers have acknowledged that scholarly discussions of internal audit technology and the use of technology acceptance models (TAM) has been limited. Kim, Mannino, Nieschwietz (2009) sought to bridge that gap with their article on the use of a TAM on internal auditors. They found that the auditors received the technology differently: ratio analysis, database queries, and audit sampling technology was generally

accepted while classification, digital analysis, and regression/ANOVA were accepted less (Kim, Mannino, & Nieschwietz, 2009, Abstract). What they found was that as the complexity of the technology increased then so the usage of the technology decreased. Accounting standards from the FASB might be altered to require automatic usage of auditing technology. To make the process easier, artificial intelligence should be used with newly designed auditing technology that makes AIS access a possibility for both small and large businesses.

One thing is for certain: businesses believe that technological advances are going to continue changing business processes until the FASB will have no choice but to adjust the GAAP accounting standards to reflect growth. Researchers have noted the importance of AIS in facilitating changes to the accounting standards, and these advancements are primarily guided by emerging technology (Kraheil & Vasarhelyi, 2014; Issa, 2018). Today, statistical sampling, enterprise resource planning (also known as ERPs), and spreadsheets are part of common knowledge. AIS and most courses and resources for AIS education are in-depth as opposed to education on specific technological processes. The problem with this philosophy is that adoption of technology without an emphasis on how to best use it means that many tools might be underused or not used properly at all. Also, these methods can be used to helping rectify the current account standard. The trend is using more and more technology so those working now need to be able to work in this environment.

## 5. Conclusion

In conclusion, the results of the study and content analysis suggested that there are several thematic trends in the current literature regarding issues with accounting standards. Not only do accounting standards have the disadvantage of being churched out slowly to the combined action of the FASB and the SEC which at times do not act in the best interest of new financial technology but they also can fail to meet the growing needs of the modern tech and financial world. Accounting standards tend to be rigid in design, and thus they fail to change significantly over the passage of time. Regardless of whether the standards evolve to utilize AI, the standards must first and foremost evolve to effectively bridge the gap between old technology and new technology.

This paper sought to analyze some of the key issues facing accounting standards and why they need to be modified, and what was discovered is that not only must the FASB and the SEC work in tandem to ensure that accounting standards are effective, but that the new standards must be capable of adapting to new business models and new technology such as AI. However, the content analysis was full of limitations. One of the main reasons why it is difficult to analyze the effectiveness of accounting standards is simply because the field lacks abundant research on the topic. Often we take for granted that the FASB will modify GAAP to suit the needs of businesses yet we suffer the consequences when we can neither adequately implement nor comply with new accounting standards; this is mostly due to the fact that non-financial institutions often have few resources that would essentially fund the necessary technology which would make real-time reporting a greater possibility.

Reports indicate that businesses are mobilizing to become more and more digital over time, and currently there are several financial transactions and exchange mobile applications such as PayPal, Apple Pay, Android Pay, and Samsung Pay that require new accounting standards. The obvious benefit of living in the age of technology would be to utilize new technological offerings to work for and with another new tech. But while this is simple in theory it is not so simple in application across the board. Technology is changing how accountants work. All of the new technology: AI, Cloud Computing, Big Data and Robo Accounting Software are affecting the accounting process and the accountant, the auditor, and the IT auditor will have to change with the profession.

Perhaps artificial intelligence is not the greatest answer to the question of how to fix an often broken system of accounting standards after all, small and large businesses face discrepancies in resources. The issue boils down to the access to AIS which some businesses have and some do not; the technology then comes secondary. If AIS was accessible to all then it would be much easier to implement new accounting standards which reflect evolving technology, because at that point the issue of resource discrepancies would have begun to be resolved.

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## The Dynamics of Thailand's Migration Policies, 1972-2008

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### Abstract

Thailand is one of the main destinations for migrant workers in Southeast-Asia. Bringing in migrants from neighboring countries is an important strategy used in sustaining the country's competitiveness in industrial economies. Based on a qualitative approach that relies on documentary analysis and interviews with key members of the government, this paper aims to examine changes in the government's efforts regarding Thailand's migration policies. Rarely mentioned in previous studies are the various attempts that were made to deal with the flow of migrants into the country prior to the registration program period. Moreover, this paper will hopefully contribute to a better understanding of how a policy on migration issues has been addressed and adapted in different contexts from 1972-2008. The role of the government as the main agent in dealing with the flow of migrants, since the enactment of Revolution Order No. 322, should be explored to explain the decision-making on this issue in order to support economic development for maximum benefit.

It has been argued that after three decades of policy development on migration management, porous borders make exact figures of migrant numbers impossible, and that Thailand's government, with its unstable domestic political situation which reflected by frequently changing parliamentary cabinet, plays an inactive role in managing the migrant issue. Moreover, policy input on labor demands is unclear, leaving problems unsolved and policies inconsistent with the country's development strategy. In this scenario, migrant worker issues become a low priority.

**Keywords:** *migrant worker, Thailand migration policy, national security, policy analysis, migration, public policy.*

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### 1. Introduction

Thailand shifted direction on its economic development from agriculture to industrialization in 1960 by passing the Investment Promotion for the Industrial Sector Act BE 2503 (1960), for import-substituting activities. Instruments of industrial policy aimed to develop industry at all levels; employment, growth in each industrial sector, and regional development with a consistent strategy to develop industrial growth (World Bank, 1980). The Investment Promotion Act was renewed in 1977, however, economic problems and an oil crisis led to limited results in investment. The turning point in Thailand's industrial development came from 1986-1996. The effects of the Plaza Accord saw a large number of Japanese firms move their production sites to Thailand, which then became an export country. After this golden decade of development, Thailand experienced an economic crisis in 1997, delaying the progress and development of the technology-based industries that had emerged during the previous ten years. In addition, political problems and military coups in 2008 and 2014 hampered outcomes in developing new schemes for industry, with results under-performing expectations (Kasikorn Research Center, 2017). Thailand delivered many proper measures for business firms to support industrial growth, and it attracted many investors abroad to boost the economy, but the management of its workforce, especially that of migrant workers, is still in question.

Thailand has a long history with migrant workers that can be traced back to thirteenth century caravan traders and merchants from what is now modern China. This was followed by people from Persia and India, who settled in this area by the fifteenth century (Wongboonsin, 2013). The government tried many different approaches to manage the influx of migrants at a time when the country's border was undefined, but since the borders have become more clearly demarcated, rigorous measures have been introduced, with border security always the main concern for the Thai Government at any stage of policy revision.

Migrant workers and irregular migration became a topic of interest across many aspects. Traitongyoo (2008) adopted a historical perspective to investigate how Thailand has dealt with different groups of migrant populations since the registration of irregular migrants in 1992, revealing that "Thainess" has a profound implication on the Thai government's management of irregular labor migration issues. During the policy formulation, a so-called Thai nationalism and "Thainess" were employed as the main perspectives to solve

the problem and a quick-fix way of eliminating the irregular migration, though these approaches failed to reach the goal of reducing the number of illegal migrants.

Likewise, due to the ineffectiveness and inconsistency of Thailand's migration policies, Srivarathonbul (2010) explored the gap in the registration program between policy goals and outcomes, which focused on Burmese migrant workers, as the largest group of migrant workers in Thailand. The study determined that policy gaps were created by a macro-structural factor, with an imbalance between demands from domestic sources and supply from neighboring countries. In addition, the effect of a corrupt system was policy failure, followed by ambiguous registration measurement and the influence of business actors to shape the process of migration policies, all factors that led to the ineffectiveness of the migration management system.

Most of the research on Thailand's migration policies has focused on the outputs of policies and their implementation in a specific area and over a certain period of time, especially the initial effort of the registration program in 1992. This paper looks back to the first enactment of measures that limited the business activities of foreigners and illustrates the complexity of the problems these workers have faced during each period, up to and including analysis of the national verification program included in the latest Foreign Employment Act of 2008, in order to explore the different practices of Thailand's government across a diverse historical context.

In organization the contents, after the introduction, section two presents the objective, which is followed by the methodology employed in this study. Findings are explained through a chronological narrative in section four, while section five includes the discussion with the argument that developed from empirical evidence. The conclusion will be the final section of the article.

## **2. Objective**

To examine how Thailand's government respond to the flow of migrant workers during 1972-2008, which measures were used and how policies transformed to tackle the problem.

## **3. Materials and Method**

To understand how the government recognized the issues related to migrant workers and provided solutions amidst differing contexts since 1972. This paper employs documentary research that relies on 1) primary documents - acts of parliament, policy statements, statistical bulletins, ministerial or departmental annual reports, cabinet meeting minutes, Thailand's National Economic and Social Development Plan, law codes, and the government gazette, and 2) secondary documents - research papers, journals, dissertations, theses, and books relating to Thai policies towards the influx of migrant workers. Findings from multiple sources are analyzed and presented in a narrative manner.

Additionally, in-depth interviews with key participants are used in data collection in order to form the basis for the variation of Thailand's migration policy in a historical context. The key participants consist of government authorities (mainly from the Office of the National Security Council, the Ministry of Labor, and the Office of the National Economic and Social Development Board) with additional key players from the academic sector, including university lecturers. A total of seven participants were selected through snowball sampling. Semi-structured interviews were conducted to provide a better understanding of the change of policies throughout any transition period.

The analysis period is from 1972-2008, which spans from the year after the enactment of the Revolution Order No. 322 in 1972, to the third revision of the Foreign Employment Act 2551 (2008).

## **4. Findings**

Thailand has a long history as one of the destinations for cross-border mobility. However, many people are not aware of the role that migrant workers have increasingly played in Thai society and their contributions to the country's economic prosperity. The Thai government has launched several measures to deal with migrant people, both directly and indirectly.

Thailand instituted a labor policy after the revolution against the government regime in 1932. The Cabinet then considered the increasing labor problem, along with the worldwide economic recession that resulted in a higher unemployment rate. The government agency then known as the Office of Employment

BE 2475 (1932), was tasked with the mission “to maintain economic prosperity through occupations provided for all citizens.” It endeavored to facilitate activities related to the employment process for a small fee. The mission of this domestic labor organization was targeted only at Thai citizens.

#### **4.1 Strict measurement on migrant control: refuge by the end of the Indochina war (1972-1986)**

Thailand during this time was facing political turbulence from a second coup, an unstable domestic political situation, and the expansion of the communist party, prior to it transforming into an era of democracy beginning with the Fourth National Economic and Social Development Plan (1977-1981). During this socio-political economic transition, the government was forced to adopt new ideas under the Inter-Sectoral Planning Scheme (National Economic and Social Development Board, 1977), with efforts aimed at economic development and social justice promotion.

Through industrial growth, the Thai economy absorbed some of the labor force migrating from the rural sector to the urban areas. At that time, it was common to witness rural villagers renounce their farmland to look for work in factories. The demand for unskilled workers from rural areas continued, and in 1980 there was competition from Central East Asian and East Asian countries that led to increasing numbers of foreign workers. At that time, some Thai workers, with the support of the Thai government, decided to immigrate to other countries to look for work. This caused domestic labor shortages in Thailand. Moreover, with the introduction of a new law that required all Thais to receive compulsory education as a way to improve their skills in order to serve the industrial demand for high-skilled workers, undocumented migrants from neighboring countries came to fill the gap left by the scarcity of low-skilled workers.

Thailand employed immigration control as a measure to monitor the number of migrant workers entering the country and officially introduced laws and regulations pertaining to immigrants by passing the Immigration Act 1927 on July 17, with the objectives of systematically monitoring and inspecting aliens immigrating to the country, with “aliens” being defined as any persons not of Thai nationality, and any acts of violation of the law committed by aliens would be penalized (Immigration Act BE 2470, 1927). Two types of immigrants were classified, namely lawful and unlawful, with this classification officially recognized.

With regard to the economic crisis, which affected the opportunity of employment for Thais, the government limited the number of foreigners allowed to legally enter the kingdom. The border was not closed completely to immigrants, though the number of foreigner migrant workers accepted into the country was reduced (Declaration on the revision of Immigration Act, 1932). The Alien Registration Act BE 2479 (1936) approved by the board of regents during the Rama VII reign, announced that aliens aged 12 years and over who had entered the Kingdom prior to the enactment of this act would receive an identification certificate within 90 days. Foreigners entering the kingdom on diplomacy missions or as a government requirement were exempted by this act.

Subsequently, in 1937, the Immigration Act was revised, with clarification added for exemption regulations that included children under 12 years of age and foreigners who entered to work by government order (Royal Gazette, 1937). The Immigration Act was later revised again, in 1939, to limit the duration of the Alien Identification Document and re-entry permit to be valid for only 1 year. Additional revision to the Certificate of Residence, formerly valid for a lifetime, was reduced to 1 year, with the added stipulation that the certificate would expire if the alien departed the Kingdom without notifying immigration officers of a pre-determined return date (Royal Gazette, 1939). Later, the Revision of Immigration Act BE 2497 (1954), was established to abolish Article 15 of the law, with the objective of preventing any persons suspected of conducting a sex business, acts of immorality, or child abuse activities from entering the country. The reasons behind the revision were to assure that, due to the unstable political situations of border countries, such people would be prevented from entering the country. The government frequently launched new regulations to deal with the influx of migrants during this period.

With consultation given by the legislative body of the state, the laws and regulations concerned - that is, the Immigration Act BE 2493 (1950) and Immigration Act (Revision II) BE 2497 (1954) - were dissolved, to be replaced by the Immigration Act BE 2522 (1979), and supplemented by additional divisions, such as the appointment of an Immigration Committee (Article 6). In order to enforce the laws as written, there was a committee set up, chaired by the General Secretary of the Ministry of Foreign Affairs and composed of the General Secretary of the Police Department, the General Secretary of the Security Council,

the Director of the Thailand Tourism Promotion Authority, with the Director of Immigration Control as secretary, in order to ensure that the latest regulations were appropriate to the actual situation of a massive influx of migrants (Royal Gazette, 1979). This act existed as the master legal framework for migrant workers.

Anti-foreigner sentiment at that time led the government to install regulations in an attempt to maintain the balance of power in the domestic economy. Revolutionary Order No. 281 (1972) was enacted in order to limit the type of businesses that foreigners could operate under government permission. This was followed by Revolutionary Order No. 322 (1972), established to protect and preserve opportunities for employment for Thais. These two laws were the first measures aimed at promoting the concept of nationalism; the Ministry of the Interior was responsible for specifying the number of immigrants permitted to enter the kingdom annually. Apart from the quota measure, the Ministry of the Interior legislated a Royal Decree BE 2516 (1973) prohibiting foreigners from participating in 39 types of professions and occupations in all areas of the Thai Kingdom, including engineering, accountancy, law, secretarial work, and jobs relating to cultural performances. The basis for the approach of this measurement was to maintain careers for Thais, with the intention of limiting the business activities of foreigners (Royal Decree on Determination of Occupations and Professions prohibited for foreigners BE 2516, 1973).

After the limitation measures put in place in 1972, Thailand enacted the first Foreign Employment Act BE 2521 (1978), to revise former Revolutionary Order No. 322, that only allowed foreigners to enter the Kingdom under immigration law. Prior to this order, undocumented migrants were not restricted and could work anywhere without regulations or control. The law was issued in response to that situation (Foreign Employment Act BE 2521, 1978). Additionally, the Investment Promotion Act BE 2520 (1977), written to promote the development of industry, addressed the need for professionals and technicians, as well as the problem of undocumented migrants. Migrants who held passports and came to Thailand under the Investment Promotion Act could work in the country with fewer regulations, with the government easing admission procedures, as well as the time it would take gain entry, in an effort to facilitate the flow of industrial growth. Concern, however, was for how to ensure the transfer of technological knowledge to Thai citizens.

Previous laws aimed to provide first priority for employment to Thais, but because Thailand could not fill the workforce demand with domestic workers, exemptions were announced to continue the flow of industrial growth by permitting foreigners to work in specified occupations. After Thailand adapted its industrial structure to be more export-industry focused in response to a suggestion made by the World Bank during the economic crisis in 1982-1983, a large number of middle-skilled and high-skilled workers from Japan, China, and the USA came to Thailand between 1982-1984 (Interview, 2015).

The revision to the law of the Foreign Employment Act BE 2521 (1978) started with a clear definition in order to avoid any problems in the implementation process and compatibility with practical situations. Laws concerning migrant workers had never been enforced before, with this act containing regulations regarding the legality of migrants to work in Thailand. Moreover, this act was the result of the cooperation between an ad hoc committee and representatives from government organizations.

The Foreign Employment Act BE 2521 (1978) stated that the number of migrant workers in the country had to be reported to the government on October 1 and April 1 each year in order for the government to keep up to date records. (This requirement was later removed). The fee for entry into the country was also raised, with the exceptions being those people who came to work as diplomats, consular officials, and from international organizations.

Undocumented migrants were not allowed to work in Thailand and were to be deported following immigration procedures under the law. In one instance, more than 90 percent of the workers at a mining area close to the Myanmar border were from Myanmar and were subsequently sent back to their home country. While some of the migrant workers did return, the result of the deportation was a labor shortage at the mine.

While Thailand is a destination for refugees from neighboring countries, many of these migrants were unable to apply for a work permit because they had no identification documents. These regulations meant that Thailand could not send these refugees on to a third country, nor could the refugees be deported, for humanitarian reasons. The government was thus forced to relax the strictness of the regulations and allow the migrants to work in order to reduce the financial burden that came with supporting a refugee population. Thailand at that time had no specific laws for how to deal with refugees. Instead, foreigners were separated into two groups, aliens and refugees, based on the same structures of immigration law as Malaysia and

Singapore. Government policies on investment promotion since 1977 focused on how to attract foreign investment. Labor-intensive principles were the main scheme to boost economic development, and free market labor had not been encouraged in order to provide jobs for Thais.

During this period, Thailand went through a difficult period, having accepted an estimated 100,000 refugees and undocumented migrants staying in border camps in eastern Thailand. Admission of the problems of management and the anxieties of local citizens did not appear in government documents until 1987.

#### **4.2 Relaxing the rules and regulations for supporting business firms (1987-2006)**

The House of Representatives meeting on 22 April 1987, stated that a large number of migrants came to Thailand to work at rubber and oil palm plantations, as well as other agricultural farms, along with working illegally in the entertainment business, causing a negative effect on the domestic economy. Moreover, ineffective measures aimed at retaining occupations for Thais failed at the practical level (House of Representatives, 1987). It seemed that the government underestimated the situation and that their first strategy was ill equipped to deal with the realities of the labor shortage. The key factors that supported illegal employment relied mainly on the ability of employers to find gaps in the lax enforcement of government policies in their search for low-cost labor. At that time, foreigners came to work in many parts of Thailand, and a general committee should have been established to look into these issues.

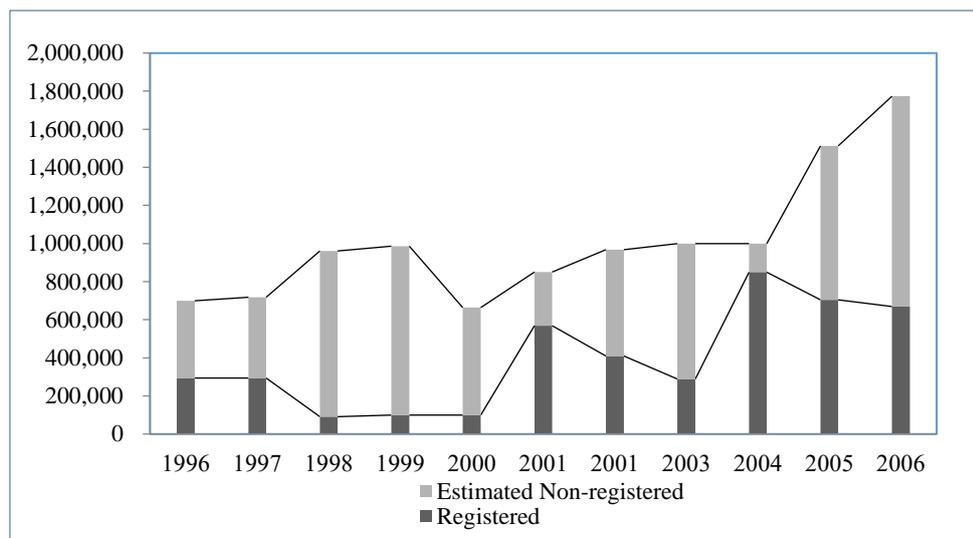
The issue of migrants was addressed and the government was made aware of the problem, resulting in the decision to make undocumented migrants stay in designated areas in the provinces adjacent to the Myanmar border. However, as the economy expanded, national security concerns became tied to economic security (Interview, 2016). The actual number of migrants living in Thailand each year could not be accurately assessed due to incorrect data from various organizations, and the number of migrants who entered the country through back channels was even more difficult to estimate.

In 1993, Thailand exported labor to support the industrial growth of Singapore, Taiwan, and Japan, with remittances back into Thailand in the top eight of GDP when compared to export income. This was a crucial time for the government to decide on how to handle allowing migrant workers into the country to fill the positions left vacant by those Thai workers who had gone abroad (Prachachart Biznews, 9-12 October 1994). At the same time, workforce development was not meeting the demand for domestic economic growth (Prachachart Biznews, 30 October - 2 November 1994), and over-productivity in domestic labor led to unemployment for skilled Thai workers (Prachachart Biznews, 5-7 January 1995). In the low-skilled market, the labor shortage effected various types of business firms; the construction industry had to employ price strategies to maintain its business cycle (Prachachart Biznews, 27 June 1996), while fisheries in the southern part of Thailand were faced with a scarcity of labor to the point that the government found it necessary to provide training programs for local people to work in fishery industries (Matichon, 25 June 1996). Moreover, big scale food processing firms also requested that the government create a legal system to employ migrant workers from neighboring countries (Matichon, 11 June 1996), though at that time Laos PDR was also facing a domestic labor shortage, with the government of Laos prohibiting its citizens from working abroad (Manager Daily, 12 June 1996).

Government response to a requirement from the private sector, through a Cabinet Resolution in March 1992, allowing Burmese immigrants to register met with limited success when only 706 migrants did so. This was followed the next year with an expansion of the registration program to allow all migrants to register in 22 coastal provinces in the fisheries sector. The Thai government increased its effort on the yearly registration program, with the number of registered migrants increasing, until there was a significant change in 1998, which saw the total number of registered migrant workers dropping from 293,654 to 90,911. The explanation for this phenomenon was the downturn in the local economy, with business sectors having been encouraged to employ Thais instead of migrant workers. This situation was temporary, however, and only affected financial firms (Interview, 2015); registered migrant workers appeared to be at a lower number, but they were still working in the country during that period.

To release pressure on the labor shortage, migrant workers were permitted to work, with restrictions, while eliminating the influx of undocumented migrants through strong prosecution conveyed a certain legitimacy to the program (Bangkok Biznews, 19 April 1999).

In 1999 and 2000, stemming from the economic crisis of 1997, registration was further limited in areas of work for migrants, with specific sectors prohibited from hiring more than 106,684 migrant workers. In 1999, the Thai government initiated the policy of systematically importing migrant workers by suspending the yearly quota measures designed to establish a specific organization to effectively take responsibility for this issue. The trend in the number of migrant workers from countries neighboring Thailand is shown in Figure 1.



**Figure 1** Migrant Workers (Cambodia, Laos PDR, and Myanmar) in Thailand, 1996-2006<sup>1</sup>  
**Source:** adapted from Philip Martin (2007), International Labor Organization.

During the first phase (1996-2003), determination of the policy focused on facing the problem and what to do about it, but in 2002 and 2003, the framework for solving the problem changed, with collaboration from the origin countries of Myanmar, Laos PDR, and Cambodia. The objectives of these measurements were to move migrant workers from an illegal status in the country to a legal system of employment. The fluctuation in the number of registered migrant workers can be seen as evidence of incoherent policies that affect the economic cycle.

This changing step was a result of the cabinet resolution on 28 August 2001, as the government attempted to set systematic controls in the registration program, to arrest and deport undocumented migrants who were not registered, and to encourage employment of Thais. However, these measures had no supportive regulations and lacked strong governmental mechanisms of enforcement. This caused an increase in the number of migrants to more than 1 million, with a massive impact on Thai society. The Office of Economic and Social Consultation conducted research on “The undocumented migrant policies: problems and solutions,” which reflected the real situation through the participation of the agencies involved (National Economic and Social Advisory Council, 2002).

The results reveal that the government managed these issues through cabinet resolutions in 1996, 1998, 1999, 2000, and 2001. In 2001, new measures were put into place to register migrant workers in every area of the country, and for every type of work, in order to ascertain the actual number of migrants working in Thailand at that time. This, however, resulted in unintended consequences, with undocumented migrants registering to work in a greater number of provinces and in additional business sectors. Moreover, the policies were formulated with no long-term vision, a lack of cooperation among related government agencies, and no input from the public. This research paper concludes that the reasons for the failure in managing the numbers of undocumented migrants were due to the lenient measures that allowed them to work in areas that were not suffering from labor shortages, along with slack law enforcement and illegal employment by Thai employers.

<sup>1</sup> An additional 53,202 migrants were registered under the MOUs in 2006. Most were already in Thailand.

The government set goals to: 1) permit the employment of migrant workers in numbers that match the actual demand and in positions that do not jeopardize national security, 2) eliminate the problem of undocumented migrants, 3) revise the management of migrant workers based on cohesive and effective principles, and 4) educate Thai society about these issues to encourage participation from the public (National Economic and Social Advisory Council, 2002). These were seen as concrete steps taken based on credible information in an effort to solve the problem of undocumented migrant workers in Thailand.

With the exception of the problem of personal identification leading to unstable resolutions, all measurements were formulated under a centralized concept. The Parliament Question No. 897 Ror (2003) demonstrates that the regulations from the central government do not fit the actual employment situations in some areas, due to different demands and culture. This was true in the case of the northern Thai province of Mae Hong Son, an area in which most people - approximately 90 percent - are either ethnic Tai Yai (one of the major groups of Shan people) or from other hill tribe populations. These tribal people are not allowed to register for work because they are not on the list of migrants from neighboring countries. For humanitarian reasons, health care and education are services the Thai government provides to all people of any nationality, although this can create a burden to local hospitals tasked with taking care of migrants who cannot enter the formal registration program. To create continuity in solving this problem based on the actual numbers of migrants seeking employment (especially in remote areas), provincial level organizations have undertaken a study of the problem and plan to present recommendations from the field to the government.

The policy in 2003 can be marked as the complete version in managing migrant workers. Regulations to protect both workers and dependents were assigned by the Ministry of Labor to manage this issue through the mechanism of the Committee on Illegal Migrant Workers Administration (CIMWA) (Interview, 2016). At this time, the Thai government shifted to its next step, working through international channels. A Memorandum of Understanding on the Cooperation in the Employment of Workers (MOU) was signed to complete the management process with the origin countries.

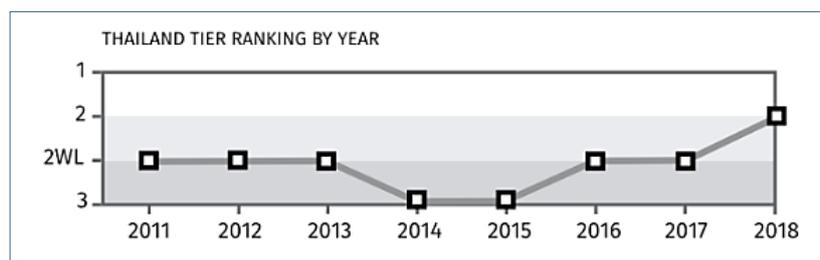
The Foreign Employment Act was changed twice in 2001 in order to increase the fee for a work permit to reflect the economic conditions at that time (The Foreign Employment Act, 2001). Legislation on foreign workers was revised most recently in 2008 to regulate the laws on increasing the work permit fee, permission to work for migrants from neighboring countries, and the creation of a migrant worker repatriation fund that both employees and employers are required to pay into when a migrant worker returns to his or her country of origin. The levy tax topic was addressed in order to improve the migration management system, based on examples from Singapore and Malaysia, in which the employer must choose to invest either in technology or pay a levy for employing migrants. In 2005, the Thai government approved and assigned the Thailand Development Research Institute (TDRI) to conduct research on guidelines for determining the appropriate rate for the fee (Thailand Development Research Institute, 2003), but this measure never got introduced to the system of management of migrant workers due to the military-staged government coup in 2006.

#### **4.3 The emergence of the global trend in Human Trafficking and the government's response**

In 2008, Thailand took its first step towards comprehensive legislation regulating the hiring of migrants from Myanmar, Laos PDR, and Cambodia. Thailand was also facilitating the normalization and deportation of undocumented migrants through a series of bilateral and multilateral agreements and a series of amnesty registration drives, though these efforts were met with only limited success (Jalilian and Reyes, 2012). The purpose of these efforts was to seek more efficient ways to manage the migrant worker population through collaboration with the origin country. However, there were still practical difficulties with the national verification process attempts to issue identification documents.

Along with a wave of internationalization recognized by most developed countries, issues of labor rights protection and human trafficking are seen as a new paradigm in the management of working migrants. It is estimated that there are about eight million victims of human trafficking in the world, two thirds of whom are from South-East Asia, with the majority being women and children (Tanaka, 2007). Thailand has been an active member of the United Nations, which has adopted the Palermo Protocol as a guideline for government strategy to cope with the problems of human trafficking and regards the protocol as an alternative to supplement former strategies, as is mentioned in the remarks section of the Anti-Trafficking in Persons Act

2008, which was adopted by The Royal Thai Government and came into effect in 2008 (Srivatananukulkit and Smerchuar, 2011). However, the government of Thailand does not fully comply with the minimum standards for the elimination of trafficking adopted by the United States government policy, resulting in Thailand being placed on the Tier 2 Watch List for human trafficking in 2013, along with Cambodia, Burma, Laos PDR, and Vietnam. In 2014, Thailand was downgraded to Tier 3 of the watch list, where it remained in 2015. With this degradation, it created a difficult atmosphere for Thailand and the United States to pursue their foreign policy.<sup>2</sup> Although Thailand has improved somewhat and has been elevated slightly in recent years, its efforts in combating human trafficking are unsteady, while imprudent measures on labor migration have led to unintended consequences.



**Figure 2** Thailand tier ranking of trafficked persons, 2011-2018

**Source:** Department of State United States of America, Trafficking in Persons Report (June 2018)

It should be noted that a large number of people from neighboring countries such as Myanmar, Laos PDR, and Cambodia migrated to Thailand more than century ago at a time when there was no real definition of country borders. People in this region moved from their homelands to Thailand freely. Today, with Thailand sharing borders of many thousands of kilometers with its neighbors, it is not possible for Thailand to completely halt the entry of migrants from those countries. Adding to the difficulty, Thailand still faces a labor shortage problem within country and needs to welcome a cheap labor force from nearby countries, even when it means Thailand must cope with a contradiction in policy and practice.

In response to the increase in human trafficking, Thailand committed to following the 4P paradigm and enacted the Prevention and Suppression of Human Trafficking Act BE2551 (2008) against human trafficking and organized crime by extending the scope of measurement within the Prevention and Suppression of the Exploitation of Women and Child Act BE2540 (1997) (Human Trafficking Act BE 2551, 2008).

## 5. Discussion

Thailand's government has played a significant role in managing migrant workers since 1972, including discontinuing policy implementation by neglecting to focus on the actual situations at hand. General guidelines on managing migrant workers, as recommended by international organizations, may not have been the right fit for the situation in Thailand, including overlooking issues of priority within the country, causing the problems to become worse.

Martin (2007) highlights the contributions of migrant workers for both sending and receiving countries as a positive force to support economic growth, but Thailand's practices are inflexible to the actual demand of migrant workers. Martin also mentions that "Labor migration is a process to be managed, not a problem to be solved," and migrants will continue to move to Thailand as long as employment is available and how it is not feasible to approach the issue of excessive migration solely through immigration control.

According to the evidence of government efforts collected for this paper, it shows that prior to 2001, Thailand's government focused solely border security, while the scarcity of labor was undervalued and the

<sup>2</sup> The concept of trafficked persons was initiated in 2000 by the U.S. Department of State to encourage global awareness in monitoring and combating human trafficking through the 3P paradigm; Prosecution, Protection, and Prevention. A fourth 'P' – partnership – has recently been added. For more details please see <https://www.state.gov/j/tip/3p/index.htm>

root causes of migration were ignored. Based on the article in the newspaper on the management of migrant workers, Wankaew (2001) also stated that the policies each year were enacted without principles or long-term planning, believing that limiting the length of stay per individual would be the primary tool in controlling the number of migrants in the country at any one time. He also believed that the lack of involvement of the businesses involved in hiring migrant workers was a key failure of policy and that the employment of undocumented migrants made possible by the leniency of the registration process undermined the effectiveness of the program, as temporary permits for migrants was the result of the problems with management itself.

Having said that the policies put in place were problematic from the beginning, the registration program was initially introduced as the main tool in migration management. Srivarathonbul (2010) highlights the gaps in the system leading to implementation inefficiencies, with the lack of enforcement illustrated by the ambiguous and ineffective registration process. The results from Rukumnuaykit (2009) showed that Thai policies on migration were still both vague and indecisive, leaving the majority of these workers unable to enjoy full legal status for living and working in Thailand. Chantavanich and Vungsiriphisal (2012) stated that attempts by the government to manage migrant workers had been partially successful. Other studies on Thailand's migration policies came up with similar conclusions - that there were some successes mixed in amongst the failures. This may be the best explanation for the ways in which the Thai government managed migrant workers across a variety of programs.

Another viewpoint, from Meyers E. (2000), pointed out that immigration policy shapes immigration patterns, with three policy domains that consider migration in Southeast Asia defined by a broad range from various policy actors. These are: 1) National Migration Policies and Border Regimes, in which governments generally deal with international migration and crossing state boundaries. Control and management are used, 2) Migrants' Rights and the Treatment of Migrants defines policies that determine the treatment and rights of migrants in the host countries, whose major role is to protect and support migrant workers, and 3) Migration and Development, which considers migration in the context of larger development issues, focusing on the national and local levels through the roles of remittance, poverty reduction, and community development, by utilizing this framework.

The first two domains appear in Thailand's migration policy. However, the assimilation approach has not been realistically considered in Thailand, even though the country is already encountering the trends of an aging society. This is an increasingly challenging issue for the government to consider in order to formulate policies moving forward, knowing that migration could play an even more important role in the years ahead, as Huguet, Chamrathirong, and Natali (2012) declared.

My argument is that politicians drafted insufficient policies and cabinet resolutions to manage migrant workers, wherein those workers were not a top priority. This resulted in Thailand being downgraded to Tier 3 of the Trafficking in Persons Report in 2014 and 2015. The real causes of the problems were not addressed until 2003. However, loopholes in the registration program for migrant workers were caused by the release of ten cabinet decisions, announced in 1996, 1998, 1999, 2000, 2001, 2002, 2003, 2005/1, 2005/2 and 2006.

The main findings revealed that Thailand was formerly a country that hired migrant workers, primarily as unskilled laborers, during its pre-modern state. After the emergence of a national security concept, Thailand adopted a policy aimed at protecting certain careers for Thai people in order to ensure that those occupations would not be taken over by foreigners.

For this reason, the Thai government initiated a policy to control the number of migrant workers in the country through the Foreign Employment Act 1978, which was drafted to establish guidelines for hiring migrant workers. This coincides with the fact that Thailand had a policy to encourage foreign investment during the same period. The main implications of Thailand's migration policy were centralized, proactive, and misleading, which led to unintended consequences and a lack of opportunities for the public to voice their opinions on the policy formulation process.

## 6. Conclusion

Considering the flow of illegal, unskilled workers who come to Thailand, the root causes are reflected by a pattern of economic development in each period. As a result of development policies in the industrial sector, the country needed to position itself to accept a supply of low-cost labor. When the domestic labor supply was not able to respond to this demand, the Thai government was forced to relax its policy in order to support requests for workers from industry owners. In contrast, when Thailand's economic meltdown in 1970 resulted in an oversupply of workers, the Thai government chose to suppress an influx of foreign immigrants into the country. Suppression of aliens was considered a part of national security policy initiated by the National Security Council. Therefore, Thai policy on foreign workers has oscillated from left to right and back again rapidly, depending upon the current circumstances. On the one hand, a demand for foreign workers to support the industrial sector still exists, but on the other hand, the Thai authorities feel there is a threat to national security if nothing is done to control the migrant population. This has paved the way for new policies in controlling workers immigrating from abroad. Registration and legalization of foreign workers has so far been the answer to this question.

In summary, an uncertainty in Thai policy on foreign workers was a result of the economic growth of the country. The process of policy formulation was based on three pillars, namely, national security, economic development, and human rights, the latter of which was lobbied for by international agencies. It can be concluded that if Thailand continues to persist in its pattern of development based on labor-intensive means, the need for foreign workers and the issues contained therein remain unsolved. Without long-term and well-considered policies, there will continue to be a gap between the policy formulation agencies and the policy implementation actors. There is no one right answer for all stakeholders concerned. The Thai government has no choice but to try to find a balance between national security aspects and economic growth in order to develop effective policies of management.

## 7. Acknowledgement

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## **Safe Harbor and Copyright Infringement on the Internet: A Need to Update the Paradigm**

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### **Abstract**

Copyright law is to encourage the creation of artistic, intellectual, and scientific content, granting to creators exclusive rights to exploit their creations. Internet intermediaries such as websites, search engines and other on-line platforms commonly host third party content which can infringe on the creator's copyright. Safe harbor laws insulate Internet intermediaries from claims of infringement. This paper discusses copyright infringement and safe harbors in instructive jurisdictions addressing the underlying rationale used by legislators and courts and then comments on contemporary issues addressing the vitality of safe harbor protection. The methodology includes a survey of leading safe harbor regimes in the United States, the European Union, Canada and Australia, supplemented with case law that interprets the application of safe harbor rules for intermediaries plus important commentaries on the application of safe harbor rules are explored. Given the rapid changes in the sources of third party content, the swift revolution in the types of internet intermediaries and the difficulty in determining the effects of altering safe harbor principles, the widest application of safe harbor protections are preferable to ensure the continued dynamism of the Internet for all stakeholders.

**Keywords:** *technology, the Internet, copyright infringement, safe harbors*

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### **1. Introduction**

It is axiomatic to observe the Internet is central to the way people live today. People get their information on the Internet, people are entertained on the Internet, people do business on Internet, people even develop their social relationships on the Internet. Instead of driving to the supermarket, the bank, or a government agency, people click several buttons on a computer or swipe a smart phone to do business, communicate with government agencies, or settle their finances. For business the Internet, a market of global reach, has significantly lowers costs of entry (Elkin-Koren & Salzberg, 1999). Who provides the platform for these activities? As a simple definition an Internet service provider primarily delivers Internet access or services to customers. Recently the characterization of "services on the Internet" has exploded in range to include Facebook (social media) Google (mailbox providers, online advertising technologies, search engine, cloud computing, software), YouTube, (video-sharing website), Amazon (electronic commerce and cloud computing) Twitter (online news and social networking service) (Fletcher, June 29, 2018).

Importantly, the world of ISPs has evolved to become the "hosting" of data by "Internet intermediaries" which are the primary foundation of commercialized Internet activities. Take the most famous examples: The world's largest accommodation provider (Airbnb) owns no real estate and the world's largest taxi company (Uber) owns no taxis. The most popular media platform (Facebook) creates no content. The world's most valuable retailer (Alibaba) has no inventory. And the largest software vendors don't write applications (Apple, Google, Facebook) (Kennedy, November 25, 2005).

In tandem with the Internet's unprecedented growth in reaching most aspects of the economy and society, are the role of Internet intermediaries that provide the infrastructure that collects, hosts, organizes evaluates and disperses information originated by third parties. These providers support a mass of activities that provide platforms for innovative, inexpensive products and services rapidly delivered. This facilitation of market processes aggregates supply and demand creating network externalities: the effect that one user of a service has on raising the value of that service to other consumers. Internet intermediaries stimulate employment and entrepreneurship by lowering the entry barriers for small businesses. Long-tail retail offerings not previously possible, whereby businesses can sell a large number of unique items, each in relatively small quantities can now reach consumers. Online e-commerce intermediaries, such as Amazon

and Alibaba have liberated consumer with greater information, facilitating product and price comparisons which have lowered the costs to consumers. Search engines such as Google and participative networked platforms such as Wikipedia have enabled access to an unparalleled wealth of information. Online advertisers increasingly play an important role enabling intermediary platforms to provide ever more sophisticated content and services at no monetary cost to users. Facebook, Twitter and Match.com have provided opportunities for new and innovative social dealings (Perset, 2010).

Importantly there is sometimes tension between various functions of Internet intermediaries as their services can be used for both legal and illegal purposes, in particular with copyrighted material. Courts addressing safe harbor issues are facing increasing difficulties in interpreting the applicable statutes and court case in adapting them to a new economic and technical landscape that involves new kinds of online intermediaries unprecedented levels of online copyright piracy. This paper will first explore various safe harbor regimes that have been adopted in countries around the world to protect intermediaries. This survey will include various cases which have arisen in these jurisdiction and the rationale used to resolve this disputes will be surveyed. Next, the new intermediaries which have evolved will be defined and the issues of copyright infringement these new technologies present will be identified. Finally, recommendations will be submitted on how to preserve the essential goals of copyright law while at the same time recognizing and incorporating the oftentimes conflicting rights and responsibilities of the emerging actors in the online landscape.

## **2. Methodology**

The methodology employed in the instant research is literature review. Publications addressing the issues explored in this paper include peer-reviewed research papers relevant to the topic, the most authoritative legal cases from the highest appellate courts which are recognized for establishing principles under discussion herein, and official government publications and websites which announced or explained government policy on the topics explored in this writing plus recent commentary exploring issues addressed in the instant paper.

The safe harbor regimes in four countries are emphasized: the United States as it has the most comprehensive level of safe harbor protection; the European Union as recent legislative proposals have been launched to change the safe harbor setup, so the various arguments for change, both pro and con have been addressed; Canada because its "notice and notice" safe harbor system is novel and has had success in its practical application and finally Australia where lean legislative language has empowered courts to actively define theories of liability and the parameters of safe harbor protections. The inclusion standards used for sources used is research paper that are peer-reviewed, legal cases that have been found to be the most enduring precedents and articles including recent commentary on the emerging issues between rightsholders, content providers, intermediaries and users in the development in this dynamic area of the Internet which encompasses technology, the interchange of ideas, and emerging commercial practices.

## **3. Discussion**

### **3.1 Copyright Law**

As the topic of the instant paper is Internet intermediaries and copyright law introductory observations about copyright law are warranted. Copy rights are original artistic creations defined by statute such as songs and lyrics, movies, books and computer programs. Typically copyright grants an exclusive right in the copyright creator during the creator's life plus some period of time, currently 70 years is common. The goal of copyright law is to encourage the creation of artistic, intellectual, and scientific content, granting to creators exclusive rights to exploit their creations. This fairness in copyright is based on the premise that the law ought to give authors what they deserve, hard work should be rewarded and authors should retain control of the fruits of their labors (Sag, 2018). The philosophical underpinnings in the can be found in the writings of John Locke. Locke posits that in order to incentivize society to the value labor should be rewarded. Specifically Locke's propositions recognized that society should strive for the optimal productive use of resources, such as ideas that the production of ideas requires one's labor and that these ideas are appropriated from a "common" which is not significantly devalued by the idea's removal (Hughes, 1988). Describing this tread for justification for copyright in the United States William M. Landes and Richard A. Posner explained

that copyright law should “maximize the benefits from creating additional works, minus both the losses from limiting access and the costs of administering copyright protection” (Landes & Posner, 1989).

### 3.2 Copyright Infringement

A creator of an original work is given a set of exclusive rights to copy, distribute, and perform their works for a limited period of time. The type of protected works are defined in the copyright statute and include such works as books, plays, music, movies, photographs, paintings, sculptures, digital files, and web pages. (UConn Library, n.d.)

Using copyright-protected work without permission is infringement. If something is protected by copyright, it commonly cannot be made available to the public in any format, digital or otherwise, without permission of the copyright owner. As an example in the United States copyright ownership gives the copyright holder six exclusive rights:

- The right to reproduce and make copies of an original work;
  - The right to prepare derivative works based on the original work;
  - The right to distribute copies to the public by sale or another form of transfer, such as rental or lending;
  - The right to publicly perform the work;
  - The right to publicly display the work, and
  - The right to perform sound recordings publicly through digital audio transmission.
- 17 US Code sections 107 through 122

Direct copyright infringement requires (1) ownership of a valid copyright, and (2) copying of the copyrighted material. Knowledge or intent is irrelevant in a direct infringement action. The infringed material must be original, must show sufficient creativity, and must be fixed “in a tangible medium of expression”. In copyright, direct infringement occurs when a person without authorization reproduces, distributes, displays, or performs a copyrighted work, or prepares a derivative work based on a copyrighted work. 17 U.S.C. § 106.

An early case of internet intermediary liability for copyright violation was *Playboy Enterprises, Inc. v. Frena*. A well-known gentlemen's magazine, Playboy brought actions for copyright infringement against the operator of a bulletin board service. The defendant's bulletin board service contained unauthorized uploaded copies of photographs that were originally published in plaintiff's magazine. The defendant argued that he himself did not post those pictures, but his subscribers did and that as soon as he received notice, he removed them. The court found access and substantial similarity had been established and held that Frena violated Playboy's exclusive distribution and display rights. As the BBS was only available to those who paid a monthly fee, the court found that the purpose of Frena's use was commercial. (*Playboy Enterprises, Inc. v. Frena*, 1993)

### 3.3 Contributory Copyright Infringement

A defendant is contributory liable for copyright infringement if he (1) “knew or should have known” about the infringing conduct, and (2) “induced, caused or materially contributed to the infringing conduct of another.” One who intentionally and purposefully participates in infringing actions, but does not actually commit the infringing actions himself, is contributory liable. One who “induces, causes or materially contributes to the infringing conduct of another,” may be liable for contributory infringement. Unlike direct infringement, contributory infringement requires knowledge of infringing activity. (*Gershwin Publishing Corp. v. Columbia Artists Management, Inc.*, 1971). In *Sega Enterprises Ltd. v. MAPHIA*, the defendants owned and operated a computer bulletin board service which users of the bulletin board service uploaded and downloaded various Sega copyrighted video games. With defendants' knowledge and encouragement, the defendants profited from this activity. Sega brought an action against the defendants, charging them with copyright infringement. Sega established the concept that creating an online portal constitutes secondary infringement once the operator has knowledge of the infringement. (*Sega Enterprises Ltd. v. MAPHIA*, 1994)

An early technology case mapping out the jurisprudence of on-line vicarious liability was *Religious Technology Center v. Netcom On-Line Communication Servs., Inc.* In this case defendant Erlich was charged with copyright infringement by the Church of Scientology when he posted online copyrighted writings of the

Church. The Church also sued Netcom On-Line Communication Services, Inc. (Netcom), the Internet service provider for the Bulletin Board System (BBS) containing the alleged infringing postings, and Tom Klemesrud, the operator of the BBS which Erlich used to transmit his postings. The Court found that Klemesrud and Netcom were not liable for direct infringement because the copying that occurred between the computers on the internet was incidental to Erlich's intentional copying of the documents to the internet likening Klemesrud and Netcom to a photocopy machine where the public can make copies. The Court noted that to find Klemesrud and Netcom liable would create a huge pool of defendants as every computer connected to the internet copies data from other places on the internet, so the total number of potential infringers would be unreasonably large. The Court defined vicarious copyright infringement as where a defendant has the right and ability to control an infringer's acts, and receives direct financial benefit from the infringement. The Court found that there was evidence to show that Klemesrud and Netcom had the ability to control Erlich's postings. However, the Court found that there was no evidence that Erlich's infringement gave any financial benefit to Klemesrud or Netcom. (*Religious Technology Center v. Netcom On-Line Communication Servs., Inc.*, 1995).

The Netcom decision does have a significant footnote in the development of safe harbor protections as it influenced the United States Congress to add the notice and takedown provisions to the Digital Millennium Copyright Act. (Asp, 2018)

Although the doctrines of contributory and vicarious liability have different tests and rationales, particularly as they are applied in the on line context no strict dichotomy exists between them. As one US Court stated: "The lines between direct infringement, contributory infringement, and vicarious liability are not clearly drawn." (*Universal City Studios, Inc v Sony Corp*, 1979) The doctrines have significant overlap, as a secondary infringer could often conceivably be either vicarious or contributory in its infringement. (Allweiss, 1999)

### 3.4 Internet Intermediary

Typically, intermediaries are objects, things or people that act as a link between other objects, things or people. The connotation of an online intermediary has come to signify more than simply the interests of two parties, linked together as a "go-between." Specifically, online intermediaries provide an infrastructure that allows people to access, create, share, or manipulate information on the Internet. Accordingly, they have to balance the interests of many involved parties, like end-users, content-providers, buyers, sellers, advertisers, or regulators all occupying a central place with expanding functions both social and economic. Because of the increased potential for new functionality, online intermediaries may also possess their own political, economic, social, and technological interests, and are therefore no longer acting as "intermediaries" in the traditional sense of the term. The connotation of the term intermediary is constantly changing in the online world (Gasser and Shultz, 2015).

An Internet intermediary provides the basic infrastructure of the Internet such as digital services and platforms. Internet service providers (ISPs) are companies that provides provide their customers with the ability to communicate with the Internet providing an entry using several technologies, such as dial-up, DSL, cable modem, wireless or dedicated high-speed connections. Individual customers pay ISPs for Internet access while ISPs are interconnected to one another at network access points until transmissions reach a Tier 1 carrier, which is an ISP capable of reaching every other network on the Internet (Edwards, 2010).

Internet access providers (IAPs) are web hosts and cloud providers, and online platforms for the creation and exchange of content such as YouTube, WordPress, and Facebook. Individual websites that allow for user interaction) are also Internet intermediaries. Many public institutions such as schools, universities, libraries, galleries and museums provide Internet access and host content. ISP's, IAPs or simply internet intermediaries risk infringing copyright when their users infringe as transmit infringing items with computers and software operated by Internet intermediaries. For example IAPs reproduce (temporarily, or for longer periods) and communicate (transmit or make available) copyright material. Their liability arises from common activities essential to the Internet, including: "traditional" web hosting/cloud hosting, hosting user-generated or user-created content or operating a search engine (Edwards, 2010).

### 3.5 Safe Harbors

A safe harbor is a shelter during a storm. A safe harbor is a provision (as in a statute or regulation) that affords protection from liability or penalty (Black's Law Dictionary, 2004). A safe harbor is a provision of a statute or a regulation that specifies that if certain conduct is observed the actor will not be deemed not have to violated a particular rule. The concept of a "safe harbor" denotes to a legal principle to to reduce or eliminate liability in certain situations as long as certain conditions are met. Various arrears of the law recognizes this defense against liability. For example, a safe harbor can be found in tax law when assets are sold and then leased back to the seller (Slovin et al., 1990). In the United States safe harbor provisions exist under rules of the Securities and Exchange Commission to protect management from liability for making financial projections and forecasts in good faith (Olazabal, 2011). This paper discusses issues surrounding safe harbors used by Internet intermediaries to find protection from claims of copyright infringement.

A vast array of commercial cultural and policy predilections shape Internet laws around the globe yet when addressing safe harbors for copyright infringement by Internet intermediaries the fundamental principles of most statutes share the same themes. Common underlying premises requires intermediaries - the two most board categories being carriage service providers that provide access or hosting services - to act passively and neutrally. Generally no requirement puts on a duty to monitor content that is either hosted or transmitted, by intermediaries, nor is there an obligation to make important endeavors to prevent copyright-infringing material from being located or passed on by their systems. The conventional standard is to create and maintain passive-reactive systems that call for action against third-party communications on a system only upon receiving allegations of copyright infringement from a rightsholder. With some exceptions which will be addressed herein, this approach exists in the laws of Australia, Canada, the European Union, Japan, Singapore, South Korea, and the United States. Some provisions are general in defining the actors, their duties and liabilities while, others spell out in great precision the expectations upon intermediaries. Some of the disparity has created difficult disagreements between rightsholders and Internet intermediaries in the establishment of safe harbors and raised calls to update safe harbor law in response to technological and commercial advancements (de Beer, J & Clemmer, 2009).

The architecture common to many on-line intermediaries is premised on unmoderated user contributions from third parties. These contributions, posts, links, images or videos are often shifting and unpredictable and challenge ISPs IAPs and other internet intermediaries in monitoring such user-generated content. For instance, million of notices are posted to the craigslist system each month, Google seeks to organize billions of unique URLs, while YouTube has thousands of video uploaded every minute. Site like Facebook or Twitter, are designed for immediate social interaction and it would be challenging for a site's administrators to instantly review in a meaningful way all the social conversations taking place on the site. Therefore, safe harbors for internet intermediaries were created to encourage the development of internet services unencumbered by the constant threat of liability for copyright infringement from third party contributors (Bramble, 2013).

Safe harbor legislation balances the interest of two major on-line actors: the content industry and online service providers. In 1997 prior to the implementation of a copyright law overhaul in the United States online service providers such as ISPs and search engines began lobbying the US Congress for a safe harbor from secondary liability which could arise from their customers' copyright infringement. This tension between copyright holders and service providers has only increased as time has gone on (Imfeld, 2005).

### 3.6 Safe Harbor Law in the United States

In the United States the Digital Millennium Copyright Act (DMCA) became law in 1998. DMCA was the U.S. implementation of the 1996 WIPO Copyright Treaty (WCT) directive to "maintain a balance between the rights of authors and the larger public interest, particularly education, research and access to information" while updating copyright norms for the digital age. In the context of safe harbors and Internet intermediaries, the law attempts to strike this balance by immunizing ISP's for copyright liability stemming from their own acts of direct copyright infringement (as primary infringers of copyright), as well as from the infringing acts of their users (as secondary infringers of copyright), provided that ISP's comply with general requirements protecting the rights of authors (Tarleton, 2004).

The US Congress sought to update copyright law “to make digital networks safe places to disseminate and exploit copyrighted materials.” The act is divided into five titles, addressing different aspects of digital copyright law. Title I, implements the World Intellectual Property Organization Copyright Treaty, specifying protection for copyright owners and “creates the legal platform for launching the global digital on-line marketplace for copyrighted works.” Title II articulates the liability of Internet service providers (ISPs) for copyright infringements transmitted over their networks. Title I and Title II work collectively to “make available via the Internet the movies, music, software, and literary works that are the fruit of American creative genius,” while limiting the liability faced by ISPs in order to ensure that “the efficiency of the Internet will continue to improve and that the variety and quality of services on the Internet will expand” (Bell Atl. Corp. v. Twombly, 2007).

The first safe harbor, set out in section 512(a), indemnifies service providers from copyright infringements for providing transmission, routing, connection services, and material storage while providing such services. In this definition the material is initiated by a third party, the services is an automatic process and the provider does not select the recipients of the material as part of the automatic response to a request of another. Finally the material must be is transmitted without modification of its content.

The second safe harbor, set out in section 512(b), indemnifies service providers for copyright infringement for the “intermediate and temporary storage of material” on a system or network which the providers control. The conditions are that the material is made available by an automatic technical process and the material is transmitted without modification to its content. The third safe harbor, set out in section 512(c), indemnifies a service provider for copyright infringement for storage, at a user’s direction, of the user’s material on the provider’s system or network. The last safe harbor, set out in section 512(d), indemnifies a service provider for referring linking users to an online location containing infringing material or infringing activity.

The policy behind the Digital Milinium Copyright Act in providing a safe harbor from liability for copyright infringement was set out in the initial report behind the legislation. Congress intended that Section 512(a) provide a safe harbor to large internet service providers. The statute allows service providers that transmit, route, or provide connections without liability for secondary copyright infringement as part of a connection between users. For this safe harbor to apply, any copies made must be of a transient nature. (Senate Report, 1998, p. 20). Section 512(b) protects companies that cache data while providing connections to customers. Caching speeds up access to content accessed by more than one user by copying the data returned by a user’s request for data from a remote server. While caching, the service provider may infringe copyright because the service provider reproduces copyrighted material, yet it simply allows the server to provide data to a subsequent user without transferring duplicate data over the Internet. Section 512(b) increases the efficiency of the Internet. (Senate Report, 1998, p. 41). The third provision, section 512(c), protects companies from liability arising from material posted by a user by providing a safe harbor when a service provider would otherwise be liable for an “infringement of copyright by reason of the storage at the direction of a user of material that resides on a system or network controlled or operated by or for the service provider.” (Senate Report, 1998, pp. 42-43) Finally, section 512(d) protects companies that index, refer to, and link to websites that infringe copyright. Search engines commonly index content without verifying the legality of linked content. Congress recognized the importance of indexing the Internet through search engines. (Senate Report, 1998, p. 49).

Section 375 (b) stipulates that the provider does not receive a financial benefit directly attributable to infringing activity. All the safe horror provisions require first, that the provider must not have actual knowledge that the material is infringing, or facts or circumstances from which infringing activity is apparent, and second, the provider acts expeditiously to remove or disable access to the material one having notice. Regarding the issue of financial benefit In *A&M Records, Inc. v. Napster, Inc.*, the court held that copyrighted material on Napster’s system created a “draw” for customers which resulted in a direct financial benefit because Napster’s future revenue was directly dependent on increases in user-base (*A&M Records, Inc. v. Napster, Inc.*, 2001). Conversely, in *Ellison v. Robertson*, the court held that AOL did not receive a direct financial benefit when a user stored infringing material on its server because the copyrighted work did not “draw” new customers. AOL neither “attracted [nor] retained [nor] lost...subscriptions” as a result of the infringing material (*Ellison v. Robertson*, 2002).

For an intermediary to be liable for “contributory infringement,” the intermediary must have actual or constructive knowledge of the direct infringement and make a “material contribution” to the direct infringement as well (*Metro-Goldwyn-Mayer Studios, Inc. v. Grokster, Ltd.*, 2005). Essential definitions are the nature of “knowledge” and what sort of contribution is “material”. With respect to knowledge, ignorance of direct infringement is not a defense to an intermediary to a claim of secondary liability under the “willful blindness” rationale for situations in which a defendant “should have” known of a direct infringement, but purposefully turned a blind eye or act upon facts or circumstances that indicated a direction of infringement. The court observed in *In re Aimster* observed that “Willful blindness is knowledge, in copyright law (where indeed it may be enough that the defendant should have known of the direct infringement)” (*In re Aimster*, 2003).

In the case *Perfect 10 v. Visa International*, credit card companies were claimed to have infringed on copyrights with knowledge in processing payment transactions for infringing material. Plaintiffs argued that defendants had chosen to continue to process credit card payments to the infringing websites, despite having knowledge of ongoing infringement (*Perfect 10 v. Visa International*, 2007). An analogy was drawn from *Fonovisa v. Cherry Auction*, where the defendant, who hosted “swap meets” where infringing activity was allowed was found liable for infringement. In *Fonovisa* the court held that the infringers and the swap meet providers were in a mutual enterprise of infringement which constituted material contribution and inducement. *Perfect 10* argued that Visa was the cyberspace equivalent of such an illicit marketplace by the material contribution of Visa’s payment process system. The court ruled the alleged infringing activity was not a material contribution. The court decided that infringement rested on the reproduction, alteration, display, and distribution of *Perfect 10*’s images over the Internet Visa’s payment processing services (*Fonovisa v. Cherry Auction*, 1996).

Two seminal case cases clarifying contributory infringement for online intermediaries are the *Sony* and *Grokster* litigations. In *Sony Corp. of America v. Universal City Studios* the issue was a technology that may involve facilitating copyright infringement (video recorders), but may also be used in non-infringing ways. The court reasoned that constructive knowledge of possible infringement should not be imputed to the intermediary in this instance the makers of video recorders. The *Sony* case established the “substantial non-infringing uses” test, for intermediary technologies that only make direct infringement possible rather than certain (*Sony Corp. of America v. Universal City Studios, Inc.*, 1984). The *Grokster* case expanded this theory, holding that simply because an OI’s technology was merely capable of substantial non-infringing uses did not categorically immunize the OI from liability, and that contributory liability may still be found if there is clear evidence of an OI’s intent to induce and facilitate infringement. This has become known as the *Grokster* “inducement rule.” The court observed: “Thus, where evidence goes beyond a product’s characteristics or the knowledge that it may be put to infringing uses, and shows statements or actions directed to promoting infringement...will not preclude liability” (*Metro-Goldwyn-Mayer Studios Inc. v. Grokster, Ltd.*, 2005).

*Viacom v. YouTube* was a series of trial and appeals in a copyright infringement lawsuit originally filed in 2007 by Viacom, Paramount Pictures, and other media companies against YouTube a popular video sharing service On April 18, 2013, a federal district court judge again granted summary judgment in favor of YouTube dismissing claims of secondary infringement. Plaintiffs averred YouTube infringed copyrighted movies, television shows placed on YouTube while the Internet site defended claiming § 512(c) “safe harbor” protection as YouTube acted as a service provider, with no knowledge of infringing materials, and when informed promptly removed any infringing materials. Originally the trial court ruled in favor of YouTube’s owner, Google, on a summary judgment, finding safe harbor principles protected YouTube (*Viacom Int’l Inc. v. YouTube, Inc.*, 2013). On appeal the court remanded the case back to the trial court to determine whether YouTube had knowledge or awareness of any specific infringements, whether YouTube had not willfully blinded itself to specific infringements or if YouTube did had the “right and ability to control” infringing activity. In 2013, the trial court again granted summary judgment to YouTube on all three issues finding that the plaintiffs had not proven that YouTube knew or was aware of specific infringements, and claims of willful blindness “give at most information that infringements were occurring with particular works, and occasional indications of promising areas to locate and remove them.” The court additionally ruled that “knowledge of the prevalence of infringing activity, and welcoming it, does not itself forfeit the safe harbor. To forfeit that,

the provider must influence or participate in the infringement.” The court found no evidence that YouTube induced its users to submit infringing videos or “otherwise interacted with infringing users to a point where it might be said to have participated in their infringing activity.” In 2014 Viacom and YouTube finally settled after 7 years of litigation (Stempel, March 18, 2014).

### 3.7 European Union Safe Harbor Discussion

Under the E-Commerce Directive (ECD) safe harbors are available to ‘information society services’, which are defined in the Information Society Services Directive (Directive (EC) 98/34 of the European Parliament and of the Council, of 22 June 1998, laying down a procedure for the provision of information in the field of technical standards and regulations [1998] OJ L204/37.) and the Conditional Access Directive.(Directive (EC) 98/84 of the European Parliament and of the Council, of 20 November 1998, on the legal protection of services based on, or consisting of, conditional access [1998] OJ L320/54.)

The motivation behind the EU Directive on electronic commerce is to develop information society services to ensure legal assurance and create consumer confidence for the proper functioning of the internal market, in order to create a legal framework to ensure the free movement of information society services between Member States. (Baistrocchi, 2002)

The definition of an information society services includes any service normally provided for remuneration, at a distance, by means of electronic equipment for the processing and storage of data, and at the individual request of a recipient of a service. The ECD defines three types of online intermediary activities: ‘mere conduit’ (Article 12 ECD), ‘caching’ (Article 13 ECD) and ‘hosting’ (Article 14 ECD). The three types of intermediary activity (mere conduit, caching and hosting) that are exempted from liability correspond to activities of classical physical network providers, Internet Access Providers, and Internet hosting providers. Recital 42 of the ECD emphasizes the passive and technological nature of intermediary activities that are exempted from liability: The exemptions from liability [...] cover only cases where the activity of the information society service provider is limited to the technical process of operating and giving access to a communication network over which information made available by third parties is transmitted or temporarily stored, for the sole purpose of making the transmission more efficient; this activity is of a mere technical, automatic and passive nature, which implies that the information society service provider has neither knowledge of nor control over the information which is transmitted or stored. For an internet access provider to qualify as a conduit the internet access provider cannot initiate the transmission of information, select the receiver of information, or select or modify the information. Intermediary liability for caches or acting as conduits is limited when these intermediaries are in no way involved with the information transmitted. (van der Sloot, 2015).

Regarding hosting, the service provider is not liable for the information stored at the request of a recipient of the service if the provider does not have actual knowledge of illegal activity or information and, as regards claims for damages, is not aware of facts or circumstances from which the illegal activity or information is apparent and the provider, upon obtaining such knowledge or awareness, acts expeditiously to remove or to disable access to the information. Article 15 of the e-commerce Directive also establishes that member states shall not impose on ISSPs a general obligation to monitor third party content, or actively to seek facts or circumstances indicating illegal activity (OECD, 2011).

The hosting exemption is of general application however, there is a question whether the hosting exemption is only available to a hosting service provider that does no more than enable users to store data in a technical sense. For example, if a website owner publishes an editorial incorporating user content would the website be able to benefit from the hosting defense? In addition there is a case to be made that Recital 42 of the Directive supports an interpretation that a publisher benefiting from advertising revenue arising out of hosting third party content would not be able to benefit from any immunity from liability. (Leonard, December, 2010)

In *L’Oreal v eBay*, L’Oreal argued that eBay was not taking sufficient steps to stop the sale of counterfeits on its online marketplace. One question was whether eBay was entitled to rely on the liability exemption set out in Article 14(1) of the Ecommerce Directive in relation to the hosting of information provided by its various sellers. The case arose in the context of eBay’s practice of assisting sellers, in some cases, to enhance their offers for sale, and promote and increase their sales (for example through display of

advertisements through use of Google keywords). The OEU held that in relation to a marketplace like that of eBay: '[T]he mere fact that the operator of an online marketplace stores offers for sale on its server, sets the terms of its service, is remunerated for that service and provides general information to its customers cannot have the effect of denying it the exemptions from liability provided for by Directive 2000/31 ... Where, by contrast, the operator has provided assistance which entails, in particular, optimizing the presentation of the offers for sale in question or promoting those offers, it must be considered not to have taken a neutral position between the customer-seller concerned and potential buyers but to have played an active role of such a kind as to give it knowledge of, or control over, the data relating to those offers for sale. It cannot then rely, in the case of those data, on the exemption from liability referred to in Article 14(1) of Directive 2000/31.'<sup>103</sup> (*L'Oreal SA and Others v. eBay International AG and Others*, 2011).

A major distinction in the scope of the safe harbors between the US and the EU is the source and manner of the overall laws which govern intermediary liability. The US has a cumulative approach to the laws, for example the DMCA safe harbors codified in 17 U.S.C. § 512, are part of the Copyright Act and thus limit liability whether direct, contributory or vicarious arising from copyright infringement alone. Other laws which create intermediary liability on different issues spring from different laws. Juxtaposed to this is the EU "horizontal" approach where the law does not focus exclusively on copyright, but addresses ISP liability in drafting a safe harbor to cover intermediaries' liability for any kind of unlawful content provided by their users, whether it is copyright infringement, trademark infringement, defamation, unfair competition, hate speech or illicit material. As the service provider is carrying out a similar technical activity be it transmitting, caching or hosting third-party content and the intermediary's actions are neutral and passive with regard to the content the logical is to establish a single set of rules covering all fields (Peguera, 2009).

Safe harbor remedies can vary in different jurisdiction. The DMCA and the e-Commerce Directive are different in their nature as the DMCA is a federal statute that creates a direct right of action while the EU e-commerce Directive sets forth a framework that member states must incorporate in domestic laws. The e-commerce Directive lacks some detailed procedural rules of the DMCA such as specific notice and takedown procedures, and measures for injunctive relief which are detailed and circumscribed in the DMCA. Although Recital 45 of Council Directive 2000/31/EC states that "The limitations of the liability of intermediary service providers established in this Directive do not affect the possibility of injunctions of different kinds; such injunctions can in particular consist of orders by courts or administrative authorities requiring the termination or prevention of any infringement, including the removal of illegal information or the disabling of access to it." Specific injunctive relief under the e-commerce Directive refers to national law for their procedure and scope where broader principles of fairness, equitability and proportionality regulating compensation under general principles of law often apply (Peguera, 2009).

### **3.8 Canadian Safe Harbor Discussion**

The Canadian system differs in two major ways with its U.S. counterpart. First, the Canadian "Notice and Notice" procedure does not provide a direct duty for Internet intermediaries to take down allegedly infringing content. Second, Internet intermediaries are granted a safe harbor independently from their compliance with the Notice and Notice system. Under § 31.1 of Canada's Copyright Act, ISPs are "exempt from liability when they act strictly as intermediaries in communication, caching and hosting activities" In Canada, the Copyright Act merely states that "a person whose only act in respect of the communication of a work or other subject-matter to the public consists of providing the means of telecommunication necessary for another person to so communicate the work or other subject-matter does not communicate that work or other subject-matter to the public." The Notice and Notice procedure begins with a notice of claimed infringement sent by a copyright owner to a service provider. Section 41.25 provides that a notice must identify the work of claimed infringement, the electronic location and the infringement claimed. Under Section 41.26(1)(a) upon receipt of a notice, the service provider is not required to remove the alleged infringing content, but rather forward the notice to the alleged infringer while retaining a record for six months (for one year if a court action has been initiated) on the identity of the alleged infringer. If a service provider fails to comply with any of these duties under the Notice and Notice procedure, the right owner is entitled to statutory damages under Section 41.26(3). The broad and less specific nature of the Canadian system is a recognition of industry practice that was going on for a number of years. In a 2010 submission on copyright

reform, major Canadian telecommunication companies explained that they had been collaborating with rights owners since the early 2000's by forwarding, at their own expense, "millions of copyright infringement notices to subscribers who are alleged to have infringed copyright" (Berkeley Technology Law Journal, March 2, 2014).

*Society of Composers, Authors and Music Publishers of Canada v. Canadian Association of Internet Providers*, the Supreme Court of Canada held that the Copyright Act specifies that neutral intermediaries enjoy immunity from liability. This immunity is enjoyed "[s]o long as an Internet intermediary does not itself engage in acts that relate to the content of the communication, i.e., whose participation is content neutral, but confines itself to providing 'a conduit' for information communicated by others . . ." The court also observed "[t]o the extent [that Internet service providers (ISPs)] act as innocent disseminators, they are protected by [§]2.4(1)(b) of the Act." The opinion found an analogy to owners of telephone wires who were "utterly ignorant of the nature of the message" and thus not accountable for the content of the transmissions. As a result, although Canada does not have an explicit list of requirements for immunity from liability for transitory communications, the effect of the general provision is similar to other jurisdictions' more detailed schemes (*Society of Composers, Authors & Music Publishers of Canada v Canadian Assn of Internet Providers*, 2004).

Because it provides an expeditious and effective method to remove infringing material the US notice and takedown regime is cited for effectiveness in curtailing copyright infringement on the Internet. On the other hand commentators on this regime contend that it creates an incentive for ISPs to remove alleged infringing content from their network even in circumstances that the material might not be infringing. The result is this situation can lead to violations of free speech in commenting on issues of public importance, restrictions on creativity, the deterrence of technological innovation, and decrease access to creative works by Internet users. For instance, works like parodies, which are generally not infringing under the fair use defense, are traditionally at risk under common notice and takedown practice. Possibly the less onerous Canadian notice and notice procedure is preferable than the US notice and takedown process the perspective of Internet intermediaries. (Berkeley Technology Law Journal, March 2, 2014).

### 3.9 Australian Safe Harbor Discussion

Australia's Copyright Act 1968 deals with the exclusive rights of copyright owners and infringement of those rights in separate provisions. In the case of works 'literary, dramatic, musical and artistic', the exclusive rights to do certain 'acts' are set forth in s 31(1) and include the exclusive right to reproduce the work, to publish it, to perform it in public, communicate it to the public, and adapt it. Separate and more limited, exclusive rights are conferred on sound recordings (s 85), films (s 86), broadcasts (s 87) and published editions (s 88). These rights are infringed by anyone 'who, not being the owner of the copyright, and without the license of the owner of the copyright, does in Australia or authorises the doing in Australia of, any act comprised in the copyright' (ss 36(1) and 101(1)). Australian copyright law therefore defines infringement of a copyright in two ways: directly, by the infringer, or indirectly, by authorising another party (the direct infringer) to commit the infringing act. (Pappalardo, 2014).

Australia's safe harbor regime is of limited force in today's emerging technology field. Safe harbors provisions only apply to commercial Internet Service Providers (ISPs) such as Telstra, iiNet and Optus and not to all providers of Internet services particularly search engines. In Australia IAPs which merely providing Internet access face little exposure for infringement by their subscribers even if they take no action to notify or educate infringing customers. Yet, web hosts, cloud computing platforms, online platforms supporting user-generated content, and search engines face risk of direct infringement through communication or reproduction initiated by their users (Weatherall, 2018). Compared to the broad protection offered by the United States and the European Union Australia has comparatively weaker protections in the statutory scheme. Yet, recently a large inequity was address with the passage of Copyright Amendment (Service Providers) Regulation amended Copyright Regulations to extends safe harbor protections to schools, universities, libraries, cultural institutions and technology platforms (Universities Australia, 2018).

A method of attacking infringers is by asserting the direct liability of intermediaries. This claim is established by pleading the doctrine of vicarious liability with employees or agents acting on behalf of principals. The authorization or permission to do the act in question can be implied from the surrounding circumstances as a question of fact drawing inference from the conduct of the defendant. For example in

*Falcon v Famous Players Film Co Ltd.*, a person who had entered a hiring agreement with the proprietor of a picture theatre who hired out the their theatre to exhibit a film, was held to have authorized its exhibition. (*Falcon v Famous Players Film Co*, 1926). In *Twentieth Century Fox Film Corporation and Another v Newzbin Ltd.* the defendant operated a search website for the Usenet news system allowing users to locate copies of films online for downloading and was held to have infringed the copyright. Despite the fact defendant denied it promoted the downloading of unlawful content in fact the system was designed to search newsgroups promoting the downloading of illegitimate and unauthorised copies, and to provide its own equivalent of a web hyperlink to such files. A key requirement is some ability on the part of the alleged authorizer, to control or prevent the infringing act (*Twentieth Century Fox Film Corporation v Newzbin Ltd.*, 2010).

Quite distinct from the liability for authorization is the possibility of liability arising as a joint tortfeasor in the acts of infringement committed by another party. This is closely related to what is termed under the law of the United States law as ‘contributory infringement’. Mirroring a similar rationale found in patent infringement law in copyright infringement cases activities are actionable by principles of joint tortfeasorship: aiding, abetting, facilitating and inducing the commission of infringing acts. But these activities must be underpinned by a ‘common design’ with the direct infringer, ie that both parties are engaged in some common enterprise or are acting ‘in concert’ in committing the tort’. Advertising a product in such a way as to suggest that it can be used for infringing purposes will not be sufficient, in the absence of showing some common design between supplier and infringer to infringe (*Thompson v Australian Capital Television Pty Ltd.*, 1996).

Internet providers were given a broader protection in *Roadshow v iiNet*. The court held that Internet access providers are not liable for authorising infringements by their customers engaged in using BitTorrent to download films and television shows. Plaintiff rightsholders presented evidence that BitTorrent sharing by ii Net customers violated copyright and ii Net of infringements. The notice included a demand that under ii Net’s. By its Customer Relationship Agreement iiNet should terminate and customers engaged in illegal conduct. iiNet did nothing claiming that it had no obligation to act. The court held ii Net not liable, for two key reasons. First, iiNet provided neither the BitTorrent software nor content and only had limited and indirect power to prevent customer infringements via BitTorrent. Second, in the circumstances of that case, issuing warning notices to customers, suspending or terminating their accounts were not reasonable steps. The court observed that “[i]n general, in the absence of any positive steps that actively incite infringement, [ISPs] that provide Internet access (as opposed, for example, to hosting services) will not be liable for authorising copyright infringements committed by their subscribers (or those using their accounts)” (*Roadshow Films Pty Ltd. v iiNet Ltd.*, 2011).

The issue of direct liability for infringement by intermediaries with emerging technology can be seen in *National Rugby League Investments Pty Limited v Singtel Optus Pty Ltd*. The case was brought by the AFL, NRL and Telstra against Optus finding that Optus breached copyright law by showing live or pre-recorded free-to-air AFL and NRL games on its TV Now service. The issue was the direct liability of service providers engaged in commercial activity involving copying and communication of content online, as opposed to non- carriage service providers (as defined under Australian law which enjoy a statutorily created safe harbor. Optus created a cloud-based system to enable its mobile Internet customers to record (on Optus’ servers using Optus developed and maintained software) and then watch free-to-air television. The court held that although Optus’ automated copying system only responded to a user’s command to make a copy, Optus was a joint maker of any resulting copies and thus afoul of copyright law (*National Rugby League Investments Pty Limited v Singtel Optus Pty Ltd.*, 2012).

The trend in Australian to target targeting aggregators and disseminators of infringing content is best illustrated in the case *Pokémon Company International, Inc. v Redbubble Ltd*. I the case, Pokémon Company International (Pokémon) won in their Federal Court pursuit of copyright infringement claims against Redbubble Ltd. the operator of an online marketplace for “print on demand” products based on artwork submitted by independent artists or designers. Redbubble is an online marketplace for “print on demand” products where users can upload artwork and can place orders for products, such as a T-shirts, to which the artwork is applied. These products are manufactured and then supplied to consumers by third parties fulfillers, not by Redbubble directly. Pokémon is the owner of copyrighted art work which was displayed on the

Redbubble site, by third parties, and Pokémon claimed this was a violation of its copyright. It alleged specifically that Redbubble had infringed its copyright by making the infringing works available on the Redbubble website and communicating them to the public and thus authorising the reproduction of the infringing works (Pokémon Company International, Inc. v Redbubble Ltd., 2017).

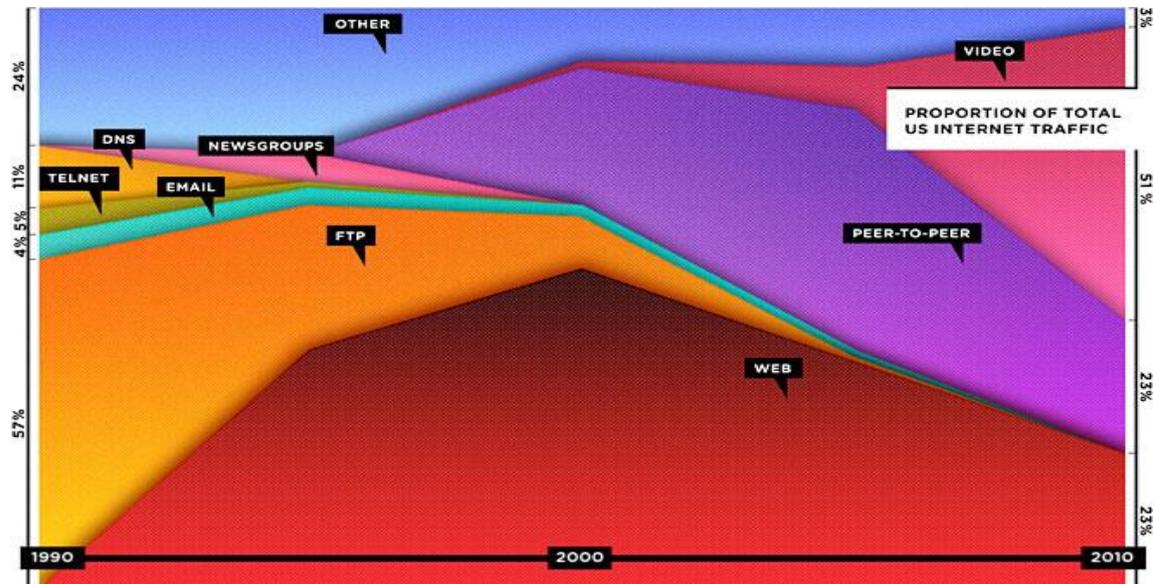
The court found that Redbubble hosted the website containing the infringing material, making the work available online, controlled the website content and made the arrangements with the artists for products that were ordered through the website. While those responsible for uploading the artworks were also involved, this did not absolve Redbubble liable for communicating the relevant works to the public. Further due to correspondence from Pokémon, Redbubble was on notice of claim of infringement. Finally the court found that Redbubble authorised the infringement of copyright, as it had the ability to prevent the infringement. It was immaterial that the system including the website operated automatically as Redbubble had developed that system in the first place. Further, Redbubble had no automated software, such as using keywords for tags or descriptions of the work or efforts to block content. Redbubble considered using an automatic approach to remove possibly infringing conduct, did not on commercially considerations. Although prevailing Pokémon was limited in its recovery. The court upheld the demial of a pre-trial injunction and awarded only \$1 in nominal damages (Pokémon Company International, Inc. v Redbubble Ltd., 2017).

### **3.10 The Change in Internet Use: The Rise of Applications**

Hosting as originally defined is the storing of third-party information on an intermediaries' system. When many jurisdictions enacted safe harbors immunizing hosts from liability for copyright-infringing content on their systems, hosting services typically offered were by the same telecommunications companies that provided carriage services or by smaller companies that specialized in Web hosting. Quickly new classes of online intermediaries emerged which were much different from those services that existed when the original immunity laws were in the late 1990s, such as the EC Electronic Commerce Directive (ECD) and the US Digital Millennium Copyright Act (DMCA) were debated and then promulgated in the late 1990s. The various immunity provisions or safe harbors were in the main designed to address straightforward situations of transmission and hosting of 3<sup>rd</sup> party content.

Roughly 20 years after the Internet came into widespread use – from 1995 on - fundamental changes in the paradigm of how people use the Internet and who generates on-line content came about. Originally the Internet was the World Wide Web (epitomized by “www.”). The Web used Hypertext Markup Language (HTML) or JAVA as a standard language for creating web pages. But an important change predating existing copyright laws is that the users of today have shifted away from open HTML content and use different software to create the substance of what is seen and used on the Internet of today. The driver of this change was the creation of the iPhone model of mobile computing and its mobile phone-based progeny which use application software. Having achieved great popularity these dedicated platforms are grounded in the use of application software or apps. A mobile application is designed to run on a mobile devices such as a smartphone or tablet (Anderson and Wolff, 2010). Beginning in 2008 App software was widely popularized by Apple Inc. with its App Store and Google and with its Android Market which was later renamed to Google Play (Pogue, 2009).

The decline of HTML data and rise of application data has changed how and what is used on the Internet. Now applications account for more of the Internet's traffic including peer-to-peer file transfers, Skype calls, online games, iTunes, and Netflix movie streaming. Whereas in 2000 the sites with the largest traffic included Ebay, AOL.com, Geocities.com, americangreetings.com today the most popular are Google, Youtube, Facebook, Baidu and the lone HTML site is Wikipedia (Gray, April 10, 2017).



**Figure 1:** Increase in Web-based Applications (Anderson and Wolff, 2010, p 31)

The newer applications are most often closed, often proprietary, networks. For example both Apple and Android have restrictive guidelines for developers who which to write apps for the iOS and Android platform. Newer technologies such as Peer-to-peer (P2P) file sharing software programs, such as Napster and BitTorrent, video hosting such as Youtube, or Vimeo, commerce sites such as Ebay, Amazon or Craigslist, service sites such as Airbnb or Lyft, social media sites such as Facebook or Line plus payment systems such as Paypal and Bitcoin and all serve up a panoply of issues causing to bring in to question the viability of safe harbor laws.

Mobile operators are today in an almost monopolistic position as they “own” the mobile delivery channel as well as relationships with customers. Of course mobile platforms need to be innovative lest they end up like Internet service providers where technology, such as switching costs, has made barriers to entry low competition and advantage is often based only on price, while the cost of acquiring customers is high as few have developed a relationship with their customers. Mobile operators have sought to develop “walled garden” portals to force content creators to be controlled in the products produced and the interactions with end-customers. The value chain which is defined as creating profits through a linked chain of activities explains the “walled” aspect of mobile platforms. The digitization of both content and the value chain requires a fresh perspective that recognize the new relationships and the underlying power structures (Peppard & Rylander, 2006).

The supplier to the mobile delivery system is the application developer a key in the success of this model, as it fills the market with applications to be acquired. Fostered by low entry barriers to developers multiple profiles of application providers coexist, ranging from amateur developers to large enterprises. These actors provide applications, which are defined as native, installable pieces of software, developed using the platform APIs and guidelines, and provisioned through the market. IN theory the application store is an open market, where every competitor has equal chances to succeed. However, it must be noted that active markets are enormously competitive, with tens of thousands of competing applications. These factors greatly increase the importance of the functions related to discovery, marketing and recommendation of applications (often controlled by the mobile platform), as they play a fundamental role in application success (Cuadrado & Dueñas, 2012).

Take gaming for example. A prevalent myth is that the app economy and the vast number of mobile devices have radically changed the games industry from a simple dual relationship between dominate games studios to one where small companies or individuals can access app platforms and gain success. Rather, Apple’s App Store is an example that demonstrates the increasing concentration of visibility and success by

a small segment of the developers offering games in the App Store. The challenge of network control and achieving attention by new entrants in a massive marketplace means that already dominant players are evident and at an obvious advantage. While there are still examples of small entrants achieving great success will be small as a result, 'the role of Apple in the value network is all encompassing and pervasive' (Nieborg, 2016).

### **3.11 Safe Harbor Takedowns are Too Broad**

In the United States the 512 takedown process has incurred considerable disapproval for a variety of reasons. One critique is that the take down process was likely to impact and deter other permissible activities on the Internet such as the use of peer-to-peer networks which usually result in the termination of a the target's Internet access. Also, the take down process often does involve a clarity in legal issues, rather the alleged offender's activity does not clearly fall into prohibited conduct which are not clear cut are simply. Urban and Quilter found that thirty percent of notices demanded takedown for claims that presented an obviously litigable question for example a clear fair use argument, or complaints about claims over uncopyrightable material. Often take down notices include statutory flaws that render the notice unusable, for example, failing to adequately identify infringing material. Also companies often engage in anticompetitive practices against competitor by using take down notices, for example over half of the notices sent to Google to demand removal of links were sent by businesses targeting apparent competitors (Urban and Quilter, 2005).

The safe harbor scheme in the United States seems to provide motivation for ISPs to replace wrongfully or mistakenly targeted material. Section 512(g) allows users to request replacement of material believed, in good faith, to have been removed or disabled as a result of mistake or misidentification of the material. If a third party content provider objects to the implementation of a takedown notice in a "counter notice" under Section 512(g) ISPs are required to notify targets that they will place the material back on-line unless the ISP receives notice that a legal action was filed. Specifically, the OSP must first notify the complainant that it will reinstate the content within ten business days after receipt of a counter notice; and then the OSP must "replace ... and cease disabling access" to the material within fourteen days after receipt of a counternotice. Also Section 512(f) provides a cause of action to users where the copyright owner knowingly makes material misrepresentations during the notice and takedown/putback process. This provision allows end-users to bring an action against those who knowingly misrepresent the infringement of a particular use. This provisions is designed to create liability for "knowingly false allegations to service providers in recognition that such misrepresentations are detrimental to rights holders, service providers, and Internet users." The reason for Section 512(f) was the protection of third parties whose material would be taken down. The law seems to place power back in the hands of content providers when in fact ISPs limit their liability with their terms of service. The actual result is that while the statute seeks to encourage put back by providing a safe harbor against liability for wrongful takedown, in practice ISP service contracts limit the legal or financial incentives for ISPs to do so (Urban and Quilter, 2005).

The practice of notice and takedown/putback procedures also disadvantage end-users in the incentives build into the law. Because the safe harbor shields an ISP from liability to a rightsholder, takedown notices incentivized ISPs to immediately take down content without any investigation. If they comply with a counter-takedown notice, the ISP has further disincentive to investigate a takedown notice because § 512(g) immunizes the ISP from liability to the end-user. All presumptions in the notice and takedown/putback procedure favor the copyright holder. The statutory scheme grants even greater protection to a copyright owner than the owner would have in court as in a trial a rightsholder would be required to show that the material is infringing their copyright. Under the takedown procedure the user's material is "assumed illegal on the bare say-so of the copyright holder (Pollack, 2006).

### **3.12 Takedown Enforcement is Too Punitive**

Although Internet Intermediaries control the technical means for both preventing and facilitating infringement, all too often they find a profit in the encroachment on copyright monopoly of ownership through increased traffic that can be exploited commercially. But the risk in increasing the involvement of Internet intermediaries in copyright law enforcement involves the risk of creating a heavy economic burden and therefore of threatening the vitality of e-commerce. A European survey in 2015 showed that Internet

users “are most likely to have paid (either by subscription or per item) to access or download e-books (46%), followed by video games (34%), audio-visual content (30%), music (29%), and sports (19%)” (European Union, 2015). Larry Lessig has argued on the changing perceptions of the normative values of intellectual property and downloading observing that the widespread peer-to-peer and remix activities of young people need to be decriminalized; his argument is practical in that young people don’t respect or abide by copyright law, therefore in some aspect copyright law should be changed (Lessig, 2008). As it can be reasonably assumed that a substantial proportion of free online content accessed by consumers constitutes copyright infringement. What follows is that both technically and realistically, the prosecution of a large proportion of the population is not a realistic strategy. Not only would the political cost be high as such enforcement measures would be highly unpopular, but also the legal system would be burdened of massive prosecutions. The intermediaries’ safe harbor is justified in the concept that the burden of control should not be disproportionately borne by the private e-commerce sector, which should remain as unburdened by unregulated as possible to meet the needs of the consuming public and remain vigorous in the creation of new commercial models which benefit wider society. The copyright system is not unique in tolerating small scale infringements at the edges that do not, in aggregate, have a significant deleterious effect. An analogy is the parallels between copyright violations and speeding offences under driving laws. In both cases, violations are individual acts that increase individual utility but are believed in the aggregate to lower overall societal utility. Both involve individual acts that seem hard to detect. For that reason, each law has huge amounts of non-compliance. And, just as with speed limits, it may be that non-compliance with copyright law is widespread, but not severe (Hughes, 2010).

Consumers access the internet in new ways which have made the categories in section 512 obsolete in practice. Websites of today frequently use multiple methods to store and process data. For instance, many websites covered by section 512(c) 07 also use system caching as described in section 512(b)108 to improve run times and to allow content to load faster. The DMCA requires that websites using multiple categories of services enumerated in the statute must comply with each category’s specifications. These conflicting obligations makes it problematic for websites to follow the DMCA’s complex safe harbor provisions. Moreover, the DMCA’s limiting categories fail to include some sites that engage in the most blatant forms of copyright infringement, including peer-to-peer (“P2P”) hosting services. (Asp, 2018)

The breadth of safe harbor protections can reach potentially unexpected quarters. In the recent decision *Sony v McFadden* the European Court of Justice held that providers of open Wi-Fi are not liable for copyright violations committed by others, but can be ordered to prevent further infringements by restricting access to only registered users with passwords. In *Sony v McFadden* a German shopkeeper’s free, open, wireless network was allegedly used to infringe copyright. McFadden (a member of Germany’s Pirate Party) received a demand from Sony Music after a user shared music from his network. McFadden argued he was a service provider under the national implementation of the E-Commerce Directive and a ‘mere conduit’ for his users’ traffic shielding him from direct liability for his users’ copyright violations. The court rejected this argument and found liability on a German principle of *Störerhaftung* - a type of vicarious liability attaching to any party in a position to ‘terminate or prevent’ the infringements. Germany’s Federal Supreme Court in 2010 held that the private operator of a wireless network can be required to use password protection in order to prevent abuse by third parties. In ruling that freedom of information is not prejudiced by an injunction which orders the provider to password protect network access as a means to identify intellectual property infringements the European Court of Justice balanced the fundamental rights under the European Charter against the right of freedom of expression. (*Tobias Mc Fadden v Sony Music Entertainment Germany GmbH*, 2016).

### **3.13 Takedown Trolling Punishes Content Providers**

Takedown notice trolling is another recent phenomenon which abuses the protections of safe harbor for ISPs as illustrated in the US case of *BMG v Cox Communications*. BMG is a music rights management corporation (a company which collects music royalties for rightsholders) who employed Rightscorp to enforce its music catalog copyrights on the Internet. Rightscorp would send takedown requests to ISPs, with a settlement offer hoping that the ISPs would pass those notices on to subscribers accused of infringing. In many cases Rightscorp flooded on-line intermediaries with numerous take down requests. Cox

Communications refused to pass on the settlement letters. Cox does have a method to process claims of infringement as copyright owners are able to log one complaint per subscriber per day, and Cox considers terminating a subscriber's access after the thirteenth notice of alleged violation, subsequent to a series of escalating responses. Cox never automatically terminates a subscriber. Cox claimed the ISP had violated the safe harbor provisions, specifically the complaint alleged that the Internet service provider contributory liable for infringement of BMG's copyright catalog by Cox's subscribers. The case considered two questions in the ongoing battle over digital piracy: first what responsibility do providers have to police the infringing activities of their subscribers for safe harbor protection, and second, is negligence alone sufficient to prove contributory copyright infringement? (Brown, 2018).

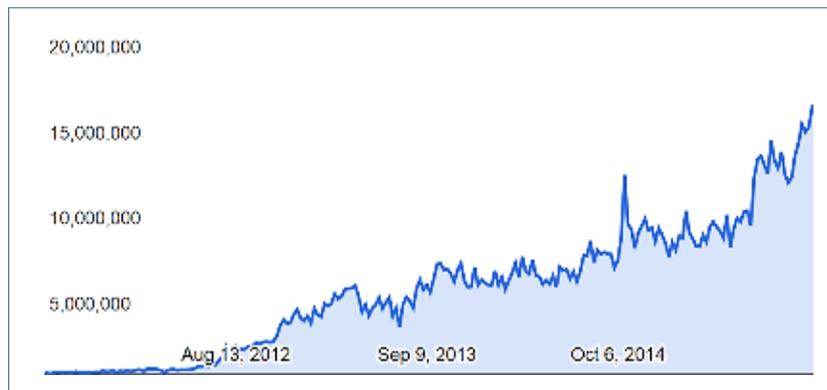
The court denied Cox's safe harbor defense reasoning that although it was clear that the ISP had implemented a system to process copyright complaints, the facts indicated that Cox seemed to have no intention of implementing a repeat infringer policy. The court found that the company had failed to implement its own policy "in any consistent or meaningful way." Cox's hesitance to terminate service to alleged infringers and repeated re-activation of their accounts suggested that the company was more concerned with retaining paying subscribers than policing infringement (BMG v. Cox, 2018).

### **3.14 Takedown Requests Continue to Proliferate**

When Google acquired YouTube in 2006 major media companies, particularly film studios and record labels, asserted that the platform facilitated widespread copyright infringement and called for a legislative response, despite the fact media rightsholders agreed in 1998 to safe harbor rules. In response to commercial pressure from content industries, Google developed Content ID, a system for proactive filtering (in Internet vernacular "bots") that often lets rights holders remove allegedly infringing content without even having to send a DMCA takedown request. Content ID allows rightsholders to submit large databases and YouTube scrutinizes new uploads for potentially matching content. Rights holders can choose to have YouTube automatically remove or they can review the content and decide the contents place in YouTube with the eye to monetize the videos. On balance to protect innocent third party uses of content there is an appeals process. Content ID changed YouTube and obtained the company the support of big content owners, many of which have forged lucrative commercial deals with YouTube (Tassi, Dec 19, 2013).

According to the researchers Urban, Karaganis, and Schofield in their review of more than 108 million of Google's web search takedown requests, more than 28%, were found to be "questionable." Nearly a third of takedown requests (28.4%) raised clear questions about their validity, while some had multiple potential issues. Among the "questionable" takedown requests are those that target websites that have been shut down calling into question the checks done to keep automated algorithms accurate. Other questionable notices were improperly formatted, included a subject matter inappropriate for DMCA takedown, or had potential fair use issues. The result of the high number of "questionable" takedown notices is that Google likely removes more content than it should. As the company currently acts in response to 97.5% of the takedown requests, the vast majority of the questionable notices are honored. Given the risk of high statutory penalties if a service rejects a valid notice, most if not all Internet intermediaries err on the side of takedown, categorically taking down 100% of the requests they receive (Urban et al., March 22, 2017).

The number of URL copyright removal requests sent to Google continues to climb at a rapid rate. During the week of November 19, 2014 Google received 15,659,212 URL takedown requests based on copyright infringement averaging 2.2 million requests per day. In November 2015 Google received 65,122,023 million URL copyright removal requests for 72,207 specified domains from 5,492 copyright owners.



**Figure 2:** Rise in Google takedown requests

*Note:* Google takedown requests grew 75 percent between 2013 and 2014. (Gesenhues, November 23, 2015).

The music industry in the United States claims takedown notices are not suppressing infringement, particularly focusing on search engines such as Google. Despite hundreds of millions of takedown notices to Google, rightsholders claim copyright infringing material is still topping many search results. Advocating a “notice and stay down” approach music groups are calling for advanced technologies to ensure that infringing content does not reappear once it’s removed. The concepts includes audio fingerprinting technologies, hash-matching technologies, meta-data correlations and the removal of links that point to content which has been taken down already. Also safe harbor provisions are being targeted in that they profit from copyright infringement (RIAA Music Notes Blog, March 31, 2016).

### 3.15 The European Union Moves in the Wrong Direction

At the time of this article’s publication the European Parliament is deliberating on a law that would force platforms like Google and Facebook to introduce automated upload filters to block copyright-protected content from being illegally posted online. The directive seeks to find a balance between the fee received by authors and performers and the profits made by Internet platforms when they make rightsholder’s works accessible. This difference has been called “the value gap”. The proposed change targets online service providers who offer access to a large amount of copyright-protected content uploaded by users, as these platforms organize, index, categorize, and promote content for profit. Internet access providers, cloud services businesses that upload content for their own use, or online marketplaces that do not give access to copyright protected content as a business model. non-for-profit websites, scientific or educational repositories, or open source software developing platforms are not included in the proposal. (Council of the European Union, March 25, 2018)

The proposal aims to address a longstanding objection by rightsholders that certain large intermediaries do not pay equitable value for content industry posted on platforms. (Danbury, 2016). The proposal has received wide support from rightsholders, for example Paul McCartney, James Blunt, Placido Domingo and more than 1,300 recording artists signed an open letter to the European Parliament in support of the new copyright law (Roxborough, July 4, 2018).

The EU proposal also aims to change the legal framework for the online use of news, by creating a new exclusive right for press publishers as Recital 31 of the new law states “[a] free and pluralist press is essential to ensure quality journalism and citizens’ access to information”. The subject matter is defined very broadly, covering professional publications, blogs and websites with the intention to make aggregators, search engines and social media pay to publishers for news posted on their platforms (Danbury, 2016).

A common objection to the proposed rules is they are universally applicable and EU-wide laws where rightsholders (both media groups and news organizations) are seeking to gain more of the profit from their copyrights. The fear is that free expression in society and smaller on-line startups will suffer harming the vitality of the commercial marketplace to the detriment of consumers. While intending to govern only licensed content, the proposed regulations target all types of content and all platforms regardless of licenses

or copyright infringement activities. The proposal aims to address a grievance by rightsholders that certain large platforms do not pay enough for content. The desire is to force intermediaries into licensing agreements. Yet small platforms and innovative startups that do not have the market power and resource to negotiate possibly thousands of licensing agreements will suffer (Koschwitz, November 21, 2017).

Filtering itself is technically ineffective and in practice comparatively expensive. Filtering is effective with some types of content, and ineffective with others. Audio files are comparatively straightforward in recognizing infringing content and systems can block text and links, more technologically complex filtering technology will raise the cost of launching commercially beneficial startups in Europe. Crowdfunding platforms 3D printing marketplaces, or e-commerce site all present different infringement issues and would need to develop different types of filtering systems. Even if filtering were to work properly across all formats, it would price many innovative ideas out of the European market (Engstrom & Feamster, March 2017).

### **3.16 The Lost Voice: Consumers**

Currently, the notice and takedown provisions of safe harbor regimes favors copyright holders and internet service providers over end-users. An Internet user may provide a counter-notice to the ISP if he believes a provider mistakenly removed or disabled access to his work. 17 U.S.C. § 512(g)(3). Whether copyright infringement actually occurred or not, the law imposes a mandatory ten-day waiting period on a service provider before restoring access 17 U.S.C. § 512(g)(2) C). Critics argue that this creates - impermissible restrictions on free speech by effectively granting temporary restraining orders prior to any determination by a court (Blom, 2009).

The current notice and takedown system significantly obstructs a consumer's ability to contest an unjustified takedown. Consider Reddit a social news aggregation website. Registered members submit content to the site such as links, text posts, and images, which are then voted up or down by other members. (Nicol, July 19, 2018). In 2016, Reddit received approximately 3294 copyright removal requests. Reddit was required to remove content in response to 610 requests, 19% of the total. Yet, no counter notices were received from any users and as such no content was required to be restored. The same was true in 2015. In practice consumers do not seem to understand the ability to challenge takedown requests in a meaningful way (Reddit, n.d.).

Another common appraisal against the notice and takedown procedures is about incentives. Internet intermediaries have no incentive to authenticate the authenticity of any notices for take down receive. The prudent course of action given the potential liability is to respond by treating all complaints of infringements as actual infringements. This is particularly true of there is not subscription relationship between search engines and alleged infringers. The search engines would be more likely than other types of service providers to take down any allegedly infringing content. As search engines generally have no subscribers, there is rarely an economic incentive for a search engine to remove purportedly infringing links. (Blom, 2009)

Although notifying consumers of a content takedown is a part of the process, the statute describing the US procedure is imprecise. As it is written, section 512(g)(2)(A) merely requires ISPs to "take[] reasonable steps [to] promptly . . . notify the subscriber that it has removed or disabled access to the material." Although there have been many cases addressing the notice required to initiate a proper takedown notice, there has been a notable absence of cases that discuss what ISPs are required to tell consumers. This lack of clarification creates a wide range of notifications a consumer can receive if his or her content is taken down. Consumers can be denied information about who is bringing a claim and what specifically about their content was infringing, and what they can do to assert their rights. This denial of basic information makes it very difficult for consumers to know what process is available to challenge an unfair takedown (Asp, 2018).

## **4. Conclusion**

Internet intermediaries provide an infrastructure that allows people to create and share information free from the threat of claims for infringement on the Internet a greater balance between the interests of the parties involved must be found. The number of actors who are protected by safe harbors, the technology that creates these new intermediaries and the novel commercial uses continues to grow in way that are unimaginable when the original safe harbor laws were passed. In order to increase the space for innovations,

existing or not yet conceivable, safe harbors should be given an expansive reading to avoid unintended consequences which can restrict the inventive characteristics of the Internet which benefit third party contributors, intermediaries and rightsholders. The current system of internet safe harbors laws are in need of an update. The users of internet services are the largest group impacted by current policy, yet they receive little consideration in the drafting of safe harbor rules. Takedown activities under safe harbor laws have proliferated, yet the evidence seems that it is overly broad. The latest European Union proposals greatly expand the entitlements of copyright holders while placing great demands on internet intermediaries that could stifle the creativity that has driven innovations on the internet. The normative values of intellectual property need to be shifted with more emphasis placed on consumers versus rightsholders. Also, intermediaries need additional space to develop novel innovation that benefits not only rightsholders, but the providers and consumers of internet commerce.

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## Blockchain Infrastructure Acceptance in the Gulf Cooperation Council Countries: An Overview

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### Abstract

The technological development across the world has created innovative options that organizations and governments can use to facilitate their processes. The blockchain Infrastructure is one of the recent developments that has been considered by some franchises. The Gulf Cooperation Council (GCC) seeks to foster political and economic status of the Arabian Gulf region. The council considered the blockchain infrastructure to facilitate the connectivity and cooperation between its member states. The approach has been essential in economic development as it can provide a digital interaction. Blockchain is considered as a game changer for the future economies of the Gulf region since it facilitates the use of cryptocurrencies, which have surfaced as futuristic innovation for economic cooperation across the globe. Cryptocurrency is gained more increasing interest as a new type of technology that is potentially leader and destroyer for the payments industry on a global scale. However, there are many different usage scenarios of the cryptocurrency and it is future unclear. This study analyzes the potential of blockchain infrastructure acceptance in the Gulf Cooperation Council countries which considers its applicability to address economic as well developmental concerns of the Gulf region by allowing its member states an open, yet transparent platform of interaction.

**Keywords:** *GCC, Blockchain Infrastructure, Digital Finance, Cryptocurrency, Digital Leadership, Digital Training*

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### 1. Introduction

The Gulf Cooperation Council (GCC) was formed initially as a regional intergovernmental organization to foster economic and political stability in Arabian Gulf region. Charter of GCC was signed in 1981 and presently, all Arab states of the Gulf region, except Iraq, are its members (Reiche, 2010). Interestingly, all its members states have monarchical system of politics with Qatar, Bahrain, and Kuwait having constitutional monarchy, Saudi Arabia and Oman running under absolute form of monarchy, while United Arab Emirates has federal monarchy. Moreover, Islam, which is a common religion in this region, defines sociopolitical norms of the region and has been a key factor that led towards the stabilizing of the council (Silander, 2015). The organization's presidential office rotates annually, and its heads work together with the member governments to facilitate social, political, cultural, as well as military cooperation in the region.

Science and technology have played an essential role in the transformation of GCC from the region's traditional reliance on oil toward tech-supported modern face. The establishment of quality technological infrastructure has promoted the development of this region to its current status (Ilu & Wallace, 2017). Essentially, globalization and increased the importance of economy and, eventually, has prompted GCC members to the formulate broad-based developmental objectives. Consequently, governments of the member states started investing resources in a system that would facilitate multidimensional cooperation in the region (Echague, 2010). The ultimate situation has been a technologically competitive region that promotes relationships between member states and leads to the realization economic as well as social stability (Al-Kuwari, 2009). With the passage of time, the GCC region has evolved from an oil-export dependent economy to a technologic-driven landscape. The transition not only opened new vistas of regional cooperation, but also provided ample opportunities for the development and promotion of innovative business practices.

The blockchain technology offers a decentralized computer-based network that connects users at the global or regional levels and to facilitate peer-to-peer communication and transactions. The network chain manages related operations in a smooth and systematic way by listing each transaction in an open ledger. Viewed as the gamechanger, blockchain technology is also influencing the GCC region with its utility as to offer alternate and multidimensional means of transacting businesses and disseminating vital information across channels (Wiseman & Anderson, 2012). For instance, it allows for the management of business transactions from a central point, and such a system eliminates intermediary bias that is often caused by institutional practices by analyzing and facilitating transactions in a decentralized yet standardized approach (Xu et al., 2016). The blockchain infrastructure, though costly, offers a reliable alternative to hectic and expensive regulatory processes that govern traditional financial mechanisms.

Cryptocurrency is a digital form of assets that allows people to trade or conduct different types of transactions on an online platform. Essentially, cryptocurrency comprises of block codes generated by complex interplay of computational power, and the technology that back it is fast and efficient, making its transactions adequately secured (Pass, Seeman, & Shelat, 2016). The system also involves the control of all transactions whereby all transfers and assets are verified before the end-to-end transfer (Delmolino, Arnett, Kosba, Miller, & Shi, 2015). Owing much to the security and its ease of utility, the blockchain infrastructure as well as the use of cryptocurrencies can offer members of GCC reliable and secure trade platforms (Ramanathan, 2007). Such a system will facilitate the realization of standard economic outcomes that favors all member states by eliminating numerous malpractices and weaknesses. Thus, the main platform for operating cryptocurrency is blockchain infrastructure as new technology.

## **2. Research background**

Blockchain is a shared database, distributed along multiple nodes, which regulate encrypted entries and confirm the authenticity and credibility of each transaction whenever it is initiated (Halaburda, 2018). The 21st century has ushered a technological revolution and, consequently, contemporary societies are becoming increasingly digitized. Additionally, rise of globalization and the enhanced need for development has pushed governments and scholars to improvise their system of governance and diversify economic basis (Alqudsi-ghabra, Al-Bannai, & Al-Bahrani, 2011). However, transferring and reimbursing capital across national borders to facilitate multinational trade ventures has become increasingly difficult, owing much to the restrictions imposed by world bodies to obstruct terror financing. Hence, the development of a safe and efficient transactional mechanism was need of the hour when blockchain-backed cryptocurrency surfaced on the technological realm (Park, Pietrzak, Alwen, Fuchsbaauer, & Gazi, 2015). The system is useful for numerous financial applications and allows a secure channel to conduct financial transactions (Grinberg, 2012). Besides, the platform offers an exchange for the cryptocurrency, which are forms of digital currency that are exchanged on the blockchain ground (Hayes, 2017). A substantial number of cryptocurrencies exist now; however, Bitcoin is the most prevalent and trusted among these.

The development of the blockchain platform and validation of the use of cryptocurrency is a major milestone for the modern world, especially in the current wave of globalization that has rendered distant places of the globe easily accessible. Accessory to the trend, advancements in technology has made it easy for corporate entities and financial institutions to pursue transnational business ventures (Gans & Halaburda, 2015). For instance, decentralized cryptocurrency offers a secure and reliable platform that facilitates peer-to-peer financial transactions across national borders. Not only the corporate entities, but individuals from various regions of the globe can also use blockchain network and transfer money at distant places (Doguet, 2013). Apart from financial transactions, blockchain provides corroborative and inclusive platform to institutional entities where multiple stakeholders can record their input and verify, or retrieve, critical information as and when needed.

Educational institutes, corporates entities, healthcare services, and the private sector are likely to benefit from the blockchain technology, especially from the safety, reliability, privacy, and immutability of data that it offers to its users. Through blockchain, it is easy to transfer resources to distant regions, and the process is fast and reliable. Moreover, organizations that deal with clients can use the technology to facilitate secure communication and transfer of information, without a fear of unintended intrusions (Christopher, 2014). The current status of the system conforms with the needs of modern society for digitization and

eliminates drawbacks that hampered traditional centralized data storages which were prone to breaches. Thus, in addition to the ease of financial transactions, all kind of organizations that involve people and finances can benefit from blockchain technology.

### **3. Research significance**

The blockchain technology is a complementary system to address the digital needs as well as privacy concerns of the modern society, especially when use of Internet and information technology have took hold of almost every walk of life. The advancements from traditional means of transacting business towards technology-driven corporate landscape imply that today's world is needing to digitize economic relationships to comply with the dynamics of globalization, which seeks to promote business across regions without the need for physical presence (Doguet, 2012). The decentralization features of blockchain platform and its alternatives to physical currencies – the cryptocurrency – have offered the world an avenue through which the markets, financial institutions, and economic activities can carry out their processes securely and smoothly (Zyskind, Nathan, & Pentland, 2015; Zheng, Xie, Dai, Chen, & Wang, 2017). Blockchains and cryptocurrencies are expected to play a central role in the promotion of a free and efficient market mechanisms that complement the transactional as well as informational objectives of individuals and nations.

Blockchain as a financial technology can use by the governments to reduce the economic and political costs of environmental governance. Therefore, the main goal of GCC is to foster socio-economic development in the Arab region. Also, the council works to promote trade and helps realize a society where trade venues remains active and efficient (Kosba et al., 2016). The blockchain technology offers an excellent system that GCC members can use for streamlining routine economic transactions (Glaser, Zimmermann, Haferkorn, Weber, & Siering, 2014). If incorporated, the improvisation will increase operational efficiency, reduce the time for transactions, and provide an equitable platform for regional and international trade. By installing self-grown blockchain infrastructure, Arab countries can operate as their own blocks and explore enormous opportunities as well as potential overseas (Conoscenti, Vetro, & De Martin, 2015). Therefore, the blockchain system will improve the economic operations of GCC, and such a situation will benefit the member states. Before the use of technology, mutual trade and physical transactions amongst states entailed processes such as interbank money transfers, which had cumbersome protocols. Moreover, it took excessive amount of time for resources to be channeled to the desired terminal (Carlson, 2016). However, use of Internet, and now the blockchain, offers an excellent venue for a real-time exchange of resources across a trusted digital platform. The opportunity will positively impact the economies of the GCC's member countries (Shea, John, & Vanderdasson, 2009).

The world is evolving rapidly, and technology remains the key promoting factor. The near future is likely to be a society where every element of society is digitized. The changes in economic operations will create a system that eliminates the need for liquid money (Sturm, Strasky, Adolf, & Peschel, 2008). The presence of platform that allows digital transfer of money will help realize this desired objective. As a result, the blockchain as a financial technology will revolutionize economic platforms leading to a pronounced use of digital currency, rather than liquid money.

## **4. Literature review**

### **4.1 Overview of the integration of (TAM) and (IDT) theory**

Tam theory is an ideal model for accepting new technology, but it is questionable to implement TAM model to all new technology acceptance situations. In effect, previous studies showing that integrating TAM with other theories to making radical technological change and improving the quality (Be'linger & Carter, 2005; Colerette et al., 2003). There is a similarity in some constructs between IDT and TAM models which are complement each other to acceptance a new technology (Hsieh et al., 2011). As a result, the integration of these two theories can provide a better model for acceptance of new technologies.

### **4.2 Technology Acceptance Model (TAM)**

The Technology Acceptance Model (TAM) is a systematic approach that streamlines the use and supports acceptance of modern technologies. TAM is applicable in scenarios whereby a new technology

comes in the market and society sees the significance of its use (Ha & Stoel, 2009). Moreover, it is promoted by the increase in end-user reactions, which demand a need to adopt systems based on the benefits it can harness (Park, 2009). The need for TAM arises when a community acknowledges the need to a technology, while the adoption of the system is based on the perceived usefulness and the perceived ease of use. Therefore, TAM offers a platform for scrutiny, analysis, and acceptance of technology with the aim of improving user experience and the defining expected outcomes.

The Gulf region is exploring the significance of adopting blockchain technology to facilitate routine operations and benefit from its innovative approach toward security and utility. It encrypts transactions and the information shared amongst all the involved parties, thus making it accessible only to the authorized users (Turner, Kitchenham, Brereton, Charters, & Budgen, 2010). The Technology Acceptance Model will facilitate evaluation of the corporate trends of the Gulf's economies and use them as a basis to determine whether integration of blockchain infrastructure and cryptocurrencies will be substantial for the region (Halaburda, 2018). Moreover, the approach will scrutinize all the elements that encompass the suggested systems and create a platform that promotes the use of the new mechanisms within the Gulf region. Thus, TAM will offer ground to help assess the value of blockchain infrastructure and cryptocurrency for the Gulf region.

#### **4.3 Innovation Diffusion Theory (IDT)**

Diffusion research analyzes how ideas spread in a population and seeks to understand the conditions that facilitate the spread of an innovation or idea that has societal significance (Lee, Hsieh, & Hsu, 2011). The theory explores the likelihood of a particular culture accepting a design, innovation, or a technology (Lee et al., 2011). The behaviour of the general population, referred to as adopters, is used to validate the significance of the explored idea. The consideration of an idea is not an abrupt move, rather it occurs through a timed significance whereby people come to accept its existence over time (Straub, 2009). Therefore, the diffusion of innovations theory explores the possibilities of ideas becoming widely accepted in a culture, and the process is valuable when exploring the significance of an opinion in a specific setting.

The adopt blockchain and cryptocurrency in GCC may utilize the Innovation Diffusion Theory (IDT), which will allow member states to explore the significance of changing the existing technological culture. The member nations can conduct a public survey of the general population and determine whether the levels of technology in the region are substantial enough to support blockchain and cryptocurrency (Persico, Manca, & Pozzi, 2014). The integration process entails the determination of systems that can capitalize on available technology to prevent scenarios whereby adaptation complements intended objectives and removes procedural as well as technical hurdles. Furthermore, GCC could consider the evidence-based practice to explore the spread of previous technologies in the Gulf and assess whether the proposed idea would have the same impacts (Jun, 2018). Hence, GCC's consideration of the blockchain technology and cryptocurrency would be based on the outcomes that validate the ability of a new technology to diffuse across the region.

#### **4.4 Blockchain as digital finance platform (Cryptocurrency)**

Financial industry has experienced constantly changing, improving fast because of digitalization. Recently, there is a shift in the axis of digital transformation through improving the delivery of traditional tasks to introducing new business opportunities and models mainly for financial service companies. Digital finance four characteristics: magnitude of new financial products, financial businesses, finance-related software, new forms of customer communication and interaction, which provide by FinTech companies and innovative financial service providers (Gomber et al., 2017). Digital finance has some benefits; for example, digital finance may drive to more financial inclusion, expansion of financial services to non-financial sectors, and development of standard services to since nearly 50% of people in the developing country which have already a mobile phone (Bank 2014). As result, the first motivation of change is the fast growth of a range of technologies are converging toward new business models which challenged the new financial services industry. The most important new technologies in today's word of financial services industry are: virtual currencies, distributed ledger technologies (known as blockchain technology), cloud computing, artificial intelligence, advanced analytics, Internet of things, advanced identity management methods, robotics,

biometrics, and virtual-augmented reality (Ketterer, 2017). The strike force of these technologies lead to stimulate the challenge because they enable business models to turnout that require very little investment. The terms of digital currency, virtual currency, and cryptocurrency characterize a type of currency that realize almost all typical functions of money, but it is available only on electronically and is at most used on the Internet. Cryptocurrencies are decentralized, transferable without mediator, and virtual currencies which based on encryption technology (Force, 2014).

While cryptocurrencies refer to digital mediums of exchange that utilize encryption technologies to regulate the circulation of monetary units while validating monetary transfers, blockchain refers to an innovation that allows for the existence, operation, and distribution of cryptocurrencies (Deloitte, 2014). The blockchain was invented for bitcoin dealings within the digital market. Scientific terms may define the blockchain as a transaction ledger which is decentralized and support transactions between anonymous dealers, Eikmanns and Sandner (2015). Through the technology, miners and consumers can authenticate trade procedures without requiring a centralized validation mechanism or agency, Eyal and Sirer (2018). Applications within the technology may encompass asset and money transfers, voting, and trade settling processes. According to Isaac, Abdullah, Ramayah, and Mutahar (2018), the year 2017 saw a peak in cryptocurrency adoption, depicted by their increasing industry applications in commerce, supply chain, gambling, finance, and trade. Investors are also considering cryptocurrencies the best options for long-term investments (Kristoufek, 2013). While some governments including the Chinese government has outlawed the use of bitcoins for fear of losing their fiscal control, more industries, businesses, and governments indicate their appreciation of the advantages and values bitcoin has to offer (Kristoufek, 2015). In collaborating governments, financial institutions have played a significant part in implementing the blockchain technology, thus sustaining the relocation of assets and money regionally and internationally (Lee, Trimi & Kim, 2013).

The digitization of major world economies has led to a need for developing countries to consider approaches that reduce the need to use complicated traditional systems of economic operations. Trends in place affirm a need for society to consider modern approaches, especially in the finance sector (Gomber, Koch, & Siering, 2017). The major problems encountered by traditional systems include confidentiality concerns, the time needed to facilitate operations, and time-consuming business protocols, especially when it involved financial institutions. The blockchain network offers a standard system that assuage most of the issues hampering efficiency of financial transactions in today's fast-paced economy (Ozili, 2018). To complement the security and efficiency, the blockchain infrastructure is optimized to offer users an excellent experience regardless of their location. The blockchain technology also makes it easy to monitor transactions as the process keeps record of the parties involved (Milutinović, 2018). Furthermore, it is more comfortable as compared to traditional systems that demand third-party involvement, thus eliminating the apprehensions regarding privacy (Zhu, Song, Ni, Ren, & Li, 2016). Therefore, the blockchain offers an opportunity for the exploration of activities that simplify financial processes and create a better approach to the realization of a financial landscape with insignificant institutional and regulatory limitations.

Cryptocurrency has also offered a substantial solution in the field of digitization of market assets. The technology is expanding at an enviable pace and likely to, as has the potential to, replace traditional systems. The use of this cryptocurrency has become a global phenomenon considering its applicability and ease of access across the globe. Sometimes known as virtual currency, the digital-code based money has captured the imagination of the larger population, with the Bitcoin being the most widely used (Gupta, Keen, Shah, Verdier, & Walutowy, 2017). It has enhanced the electronic cash system that facilitates online transactions without the physical presence of the involved parties. Notably, the currency will help revolutionize the world and create a society where people can remotely explore different markets and trade without the encountering procedural and institutional limitations that tend to slow down the transactions (Vitt, 2013). For instance, the blockchain platform makes it easy to transfer desired amount of resources across different points. In addition to the elimination of hinderances, Cryptocurrency provides equal application of currency as its value remains constant across the network and changes only when exchanged to other forms of money (Wright, 2017). Therefore, the use of digital resources is essential towards the realization of a free, safe, substantial, and most of all, stable market.

GCC's objective to supplement socioeconomic development of the region entail advancements in education, healthcare, trade, financial management, and all other activities that involve the use of money

(Hu & Zheng, 2016). Therefore, blockchain and digital finance platforms will offer a sound and reliable futuristic base for these operations. All institutions within the member countries of GCC can use digital currency to conduct business operations (Al-Mubarak & Schröl, 2011). Such a system would promote trade within the region, eliminating existing drawbacks including currency change, safety issues, and long period of transaction. Thus, a blockchain transaction will facilitate business operations amongst GCC members, and such a system will improve the status of the nations in the Gulf region.

A significant application of blockchain and cryptocurrency will be the promotion of international trade between the GCC members and other countries. The establishment of a digital form of currency will stabilize the region’s economy and prevent scenarios whereby the value for goods, such as oil, fluctuates based on the currency of the producing country (Hu & Zheng, 2016). Moreover, the consideration of the cryptocurrency will also facilitate successful, fast, efficient, and easy economic transactions between GCC members and other nations. The trend will create a culture where operations are fast, and such a change is essential for the economic development of nations in this region. Overall, the consideration of digital trade through a standardized system will promote stability amongst members of GCC.

The reason behind these trends is that the technology and digital currency provides an efficient platform for business innovation. The systems make it easy for businesses to collaborate across different regions. Enhanced collaborative framework makes it easy for companies and individuals in business to design better approaches that can market products across different areas. The presence of a common currency opens opportunities for people to invest without indulging in hectic money exchange calculations. Eventually, people and countries in GCC will explore new marketing opportunities due to the elimination of impediments that were encountered in the past (Arabehety, Chen, Cook, & McKay, 2016). A perfect instance is a scenario whereby the establishment of new systems that involve financial operations amongst different parties will not require physical availability or regulatory sanction of the financial institutions thereof. Businesses can thrive remotely as managers would consider innovative applications that facilitate the processes and link those to the blockchain technology and digital currency.

The numerous benefits of blockchain technology has led to its increasing rate of utilization in different sectors. According to report by Grand Review Research (2018), the market size of blockchain technology market size in the world was valued at \$604,500,000 in the year 2016 and it is expected to show a compound annual growth rate of 37.2 percent over the period of forecast. For example, the chart below represents the U.S blockchain technology market size as applied in financial services, consumer products, technology, media and telecommunication, healthcare, transportation, and public sector. From the chart, it is evident that the United States is experiencing an increasing rate of blockchain technology utilization.

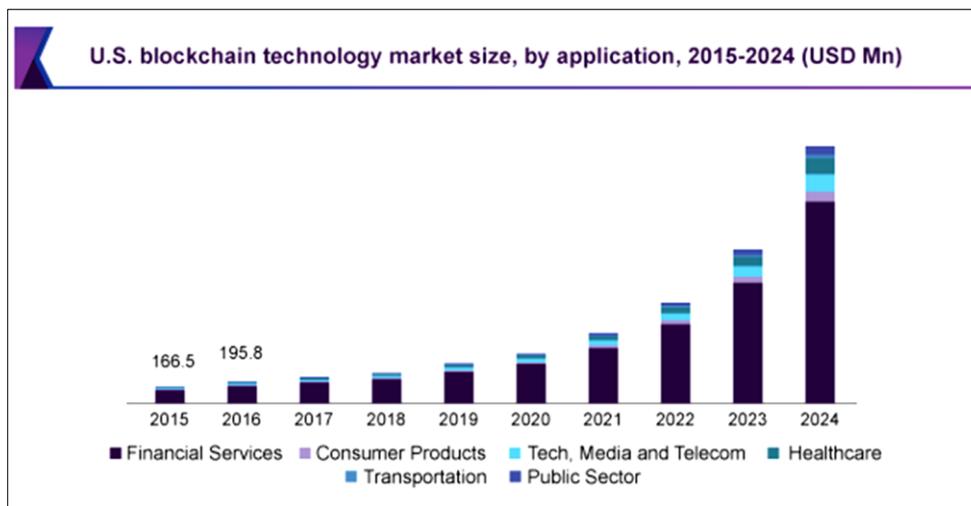


Figure 1 U.S. blockchain technology market size by application (Grand Review Research, 2018)

As a result, the use of digital currency and the blockchain infrastructure provides a platform that can facilitate the decentralization of business operations. The use of liquid currency limits such a system because of the institutional and procedural limitations. However, with the use of blockchain, it would become easy to conduct business operations across different departments or countries as all the stakeholders would be linked to an encrypted platform. Notably, digital systems will eliminate the disadvantages and facilitate the establishment of platforms that centralize an economy (Kim, 2016). For instance, the establishment of a large database that provides opportunities for all economic activities will promote trade since transactions are payable through a standardized digital system. Hence, integrating blockchain allows for a broader scope of activities to occur under the same platform and innovators can readily explore the idea to greater utility.

#### **4.5 The technological foundation and security of blockchain technology**

Blockchain technology operation is based on the peer-to-peer model which eliminates the need for intermediaries. The security of blockchain refers to a scenario whereby the transacted information is kept private from third-party interference. The element is complementary to the cryptocurrency as blockchain controlled mechanism ensures an end to end encryption of the information, allowing only the involved parties to access the information (Zheng et al., 2017). The trends in the technology affirm that blockchain is the most efficient and secure systems. The technological element of the blockchain system is designed to ensure that the information remains within the stipulated network and is accessible only to relevant users. Therefore, the blockchain infrastructure offers an efficient and secure platform for financial transactions, eliminating risks, such as information leak or surveillance by third parties. In addition, the distributed ledger technology – commonly known as blockchain – maintains an end to end arrangement of digital blocks that store the transaction records (Zheng et al., 2017). All the blocks are directly connected, and such a system makes it hard for third parties to access information as the deciphering of one block implies a need to connect it to others of its type (Zyskind, Nathan, & Pentland, 2015). Besides, by allowing the use of smart contracts and offering a traceable record that allow audits of the execution of contracts, blockchain incorporates utilizes a mix of transaction as well as consensus protocols to determine the validity of a transaction (European Union Agency for Network and Information Security [ENISA], 2016). Thus, the arrangement of digital blocks, which are interdependent, and the confirmatory validation of every transaction are the key parameters through which the blockchain protects transaction data and ensures that the transacting parties mature their deal affectively.

Encryption, which refers to a system that ensures access to data only by authorized parties, is one of the practical approaches that protect transactions in the blockchain technology. The cryptography system provides an environment whereby the network of users has unique passcodes – public and private keys. The private keys act as an individual signature that allow access to relevant information and are required for the execution of every transaction and any alteration of the keys leads to the whole system being disabled; however, the system provides early notifications that prevent further damage (Zheng et al., 2017). Another advantage of encryption is that it prevents external access and confines transactions between the involved parties who appear in a particular network and have relatable keys. Overall, cryptography facilitates the protection of transactions in a blockchain infrastructure. Another significant security element of the blockchain technology pertains to the innovative approaches that it uses to verify transactions. Participants must agree to the terms that represent the truth before a transaction is added to the system. An excellent example is the bitcoin blockchain, whereby computers try to solve complex cryptographic decryptions and, if succeeded, ultimately validate the transaction. However, a major limitation of the verification system is that it requires significant power, especially in scenarios whereby the blockchains are large and for public use. Alternatively, private blockchain systems have a permission network that allows known users to validate any transaction. Such a system only allows participants with transaction rights to verify operations. Thus, verification is an essential element in the blockchain technology, and it entails solving cryptographic complexes.

## **5. Conceptual elements that affects to successful for blockchain infrastructure acceptance in GCC countries**

In this research paper, the authors suppose conceptual elements that affects for successful acceptance for blockchain infrastructure in GCC countries.

### **5.1 Digital leadership**

The digitization of the society demands an innovative approach for the management of corporate and financial systems. Countries and interested stakeholders must consider the changes to create an efficient digital environment. The process involves a scrutiny of blockchain ecosystem and the adoption of practices that best suit the systems in place (El Sawy, Kræmmegaard, Amsinck, & Vinther, 2016). Moreover, it is essential to consider digital leadership approaches that attribute to the existent culture to prevent scenarios whereby the practices do not conform to the ideas or expectations of the technology. Hence, digital leadership offers a platform for the management of activities on a modern platform. The success of digital leadership depends on how an organization utilizes current assets to establish an environment that meets the demands of customers and involved people, and it is applicable at both the personal and organizational levels. The system explores the use of ever-growing technology, especially in the corporate world and seeks to create a business landscape that considers technology as a key facilitator behind its routine operations (Valentine & Stewart, 2015). A central person or people are chosen to oversee the progress and operations of digital assets, such as electronic documents and emails. The chosen individual must understand the corporate goals and work towards the realization of these objectives. Overall, digital leadership entails the management of corporate assets in a digital business landscape.

Alternatively, digital leadership is practical in scenarios whereby an organization makes use of its digital assets to works towards the realization of its defined objectives. The move aims to improve the organizations position in the market, gain, and maintain a competitive advantage against competitors. The digital leaders explore how information technology can foster company operations in relation to the changing market trends and customer demands. The process also entails effective communication, commitment to improvements, and the elimination of elements that induce redundancy to the organizational processes. Accordingly, digital platforms focus on the development of a franchise through the effective management of digital assets. Use of blockchain and cryptocurrency are digitalized processes, which call for excellent digital leadership. The use of digital coins is only practical in an environment with individuals who have expertise in the management of the resource and transactional procedures. The process entails command on information technology; hence, the need for people who can effectively manage the existent systems to create better outcomes (Carlson, 2016). Therefore, the smooth integration of digital currency and blockchain networks relies on the digital leadership, which ensures the provision of an excellent platform that can effectively manage business transactions and result in company growth or the maintenance of a competitive advantage.

Digital leadership provides relevant information regarding market trends and the position of a franchise in a corporate system, and this feature is essential for the success blockchain technology in GCC. The elements are critical to the management of cryptocurrency considering that it is a primary factor of trade. Moreover, competent digital leadership would help the region identify approaches that can better the use of cryptocurrency amongst GCC members. The ultimate situation is s system that promotes the status of an organization or individuals in a digital market setup. Therefore, in relation to the growing trend of blockchain adaptation throughout the world, digital leadership will provide a platform for an analysis of global trends in the market and offer the most feasible considerations for the use of cryptocurrency to the GCC members.

### **5.2 Digital training**

Training is an essential requirement for businesses as it equips the workforce with knowledge and skills that are essential for the realization of socio-economic and political development of the society at large. The process is successful if stakeholders scrutinize the relevant environment and identify relatable issues to outline the basics that are needed for an intended activity. Moreover, it is important to understand that every environment has unique features that can be utilized to realize specific goals as the technology-integration process makes use of available resources and opportunities to facilitate the realization of set objectives. Digital training involves equipping the general population of specific people with information that is

necessary to create a technologically updated setting. The digital training helps organizations amass the exact skills that they need. It is difficult to find experts with high competence in cryptocurrency as there exists no platform that offers such training in GCC region yet. Therefore, organizations must hire and train people for the specific task, and such an approach increases competence and the value of outcomes. Additionally, digital training also creates an environment that promotes competence, revolutionizes the processes, and opens a ground for the adaptation of new ideas. The elements promote the establishment of a setting where technology becomes the core basis for all activities. Thus, digital training is essential for the improvement of states, corporate sector, franchises, and individuals involved in businesses.

The digital training system requires an adoption plan that entails the identification of relevant technologies and a platform to facilitate their integration. The utilization of digital technologies correlates their applicability and the digital training that stakeholders must adapt those, and the only difference arises through the approaches used as well as the defined goals and objectives (Rosenberg & Foshay, 2002). Considering the applicability and validity of digital training makes it easy to set a defined environment that promotes the wellbeing of the involved people. Accordingly, digital training to integrate blockchain ecosystem requires appropriate approaches, refined expertise, and availability of sufficient resources as well as will to carry out its related operations. Actually, the blockchain technology is comparatively a newer technology, and few people have expertise in how it works. Therefore, there is a need to initiate training ventures that offer infrastructure as well as core knowledge about the creation, distribution, and use of digital currency. GCC can significantly benefit by initiating digital training programs as the measures will offer citizens with knowledge on technologically controlled platforms, leading them to use blockchain system to innovate their business practices and advance their expertise. Given the potential that blockchain and cryptocurrencies have for the financial realm, GCC can realize its objective of inclusive development and sustainability by opening new vistas of tech-supported opportunities.

## 6. Conclusion

The discussion outlines significant elements that encompass the blockchain infrastructure, cryptocurrency, digital technology, and the future of the changes regarding society and the GCC. A major reference is made to the countries in the Gulf region can consider the blockchain system to foster economic development. The outcomes affirm that the Gulf region has a high potential to develop into a powerhouse of trade, based on tech-supported systems that consider the use of digital technologies and eliminate reliance on liquid money. Therefore, the major element of the discussion scrutinizes the blockchain infrastructure and its major offering – the digital currency – and how the two factors will foster the region's economic development.

The literature review analyzes the relevant strategies and technologies that can support the success of cryptocurrency and the blockchain system in GCC region. For instance, the Technology Acceptance Model outlines the practices that Gulf nations can consider before adopting the blockchain. An analysis and resultant adoption of the blockchain system under TAM model suggests that the innovation would complement core objectives of the GCC organization by fostering economic development and business innovation in member states. In addition, the discussion analyzes the Innovation Diffusion Theory (IDT) which outlines the elements that determine the spread of a technology in a specific community. Gulf countries benefit the propositions of the theory for analyzing the need to explore digital currency and blockchain technology. The discussion further validates the significance of the blockchain system in the society. Its applicability is evident in sectors that involve financial systems as well as information processing, and such applicability confirms the importance of technology across multiple socioeconomic sectors. Moreover, the explorations affirm that by integrating blockchain based digital platforms, businesses and individuals can eliminate conventional impediments that hamper the efficiency of multinational trade. Thus, the discussion outlines the value of cryptocurrency and blockchain systems in the transforming financial markets of the Gulf region.

However, there is need to explore the compatibility of blockchain infrastructure with the existing technological framework of GCC region, and if it requires improvisation, member states should work towards its procurement and allocate sufficient resources for the purpose. Adoption of the blockchain calls for the scrutiny of blockchain security, promotion of digital leadership in the area, integration of digital training venues, and the review of the future use of the technology. These elements are essential for the success of cryptocurrency in GCC region as they outline some of the significant factors that would better the system and

create a platform that promotes the digitization of business environment. Furthermore, they validate the need for corporate entities to explore the option to benefit from the promising aspects of the technology for the promotion of a globalized economy. Finally, it is evident that the blockchain technology is the future of global markets as it offers a platform for hassle free financial operations, reliable security, and, eventually, the realization of a society that thrives because of efficient business transactions. Hence, GCC region should also follow the course to materialize its growth and developmental objectives.

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## APPENDIX A

### RANGSIT JOURNAL OF SOCIAL SCIENCES AND HUMANITIES (RJSH)

#### ACKNOWLEDGEMENTS

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## APPENDIX B

### RANGSIT JOURNAL OF SOCIAL SCIENCES AND HUMANITIES (RJSH)

#### NOTE FOR AUTHORS

#### 1. Aims and Scope

*Rangsit Journal of Social Sciences and Humanities (RJSH)* is a multidisciplinary journal that aims to provide a high profile vehicle for publication of various new issues in different academic areas. The scope of the *Journal* encompasses, but not limited to Interdisciplinary Studies in Humanities and Social Sciences, any of the following areas:

Arts & Design	Economics	Hotel Management	Music
Accounting	Education	International Studies	Risk Management
Business	Finance	Language	Social Innovation
Communications	Food and Food Catering	Law	Tourism
Corporate Risks and Corporate Governance	Fraud Investigations and Legal Aspects	Logistics	Public Policy
Criminal Justice Issues	History		

#### 2. Submission Deadline

Submissions are to be permanently open. A manuscript submitted between July 1<sup>st</sup> and December 31<sup>st</sup> will be considered for publication in the January-June Issue of the subsequent year whereas a manuscript submitted between January 1<sup>st</sup> and June 30<sup>th</sup> will be considered for publication in the July-December Issue.

#### 3. Categories of Articles

The *Journal* accepts the following types of articles:

1. **Research Articles:** A research article is a regular quantitative or qualitative article which aims to present new findings or interpretations.
2. **Notes or Address:** A brief record of something or speech written down that presents important issues.
3. **Review Articles:** There are two types of review articles: non-systematic (or journalistic) reviews and systematic reviews. Non-systematic or journalistic reviews provide a summary of evidence derived from primary studies that have been selected and synthesized according to the author's personal and professional perspective. Non-systematic reviews can cover a wide range of subject matter at various levels of totality and comprehensiveness. Systematic reviews, on the other hand, provide summaries of related primary studies that have been searched for, evaluated, and selected and reported according to a rigorous methodology.
4. **Innovations:** An innovation is an article which aims to present creative arts and designs, procedures or devices.
5. **Comments or Critiques:** A comment or critique is a short article that makes comments or replies to a comment on another article already published by this Journal.
6. **Book Reviews:** A book review is a short article that is written by a specialist and read by the general community. The aim of a book review is to give a brief summary of the book's strengths and weaknesses and to evaluate the book's overall usefulness to the audience it is intended for.

Research articles, review articles, and innovations should not exceed 15 pages of standard A4 paper using *RJSH* format. Notes, comments or critiques, and book review should not exceed 5 pages. Template for research articles is available at [www.rsu.ac.th/rjsh](http://www.rsu.ac.th/rjsh). All categories of articles must coincide with manuscript preparation instruction (see Manuscript Preparation Section).

#### 4. Editorial Policies

*RJSH* accepts only the work that has not been published; that is not under consideration for publication, elsewhere; and that its publication has been approved by all co-authors and the relevant authorities responsible at the institute where the work was conducted. Submission also implies that the authors have already obtained all necessary permissions for the inclusion of copyrighted materials, such as figures and tables from other publications. Previously published work will not be considered for publication. Submitting a copied piece of writing as one's own original work is considered plagiarism. The *Journal* is published by Rangsit University Press, Thailand. Contributions are in English. Copyright is by the publisher and the authors.

**Authorship:** *RJSH* expects that all of the authors listed on a manuscript have contributed substantially to the submitted paper. By submission of the manuscript, cover letter, and Copyright Transfer Agreement (CTA), the corresponding author affirms that all named authors have agreed to be listed as authors of the paper. Furthermore, by their signatures on the CTA, all authors affirm that they have both read and approved the manuscript, and that they take full responsibility for the content of the article.

**Review Process:** *RJSH* assumes responsibility for insuring that submitted manuscripts receive expert and unbiased reviews. *RJSH* strives to complete a peer review of all submitted papers and the publication of accepted manuscripts in a timely manner and to keep the authors informed of any problems with their manuscript. All submitted manuscripts are initially evaluated by the Editor-in-Chief in consultation with members of the Editorial Board before being sent for double-blind review. *RJSH* is under no obligation to submit every manuscript to formal peer review. Manuscripts that are judged by the editors to be inferior or inappropriate for publication in the *Journal* may, at the discretion of the Editor-in-Chief, be rejected without formal written reviews by referees. *RJSH* attempts to obtain at least two written reviews for each manuscript that is entered into the peer review process, although the Editor-in-Chief has the discretion to make final decisions about the disposition of a manuscript with fewer than two reviews. The reviewers' evaluations will be used by the editors to decide whether the paper should be accepted, revised or rejected. A copy of the referees' comments will be sent to the corresponding authors whose paper needs revision. All reviewers serve anonymously and their identities are protected by the confidentiality policy of *RJSH*.

**Confidentiality:** As is customary for the peer review process, *RJSH* holds the identity of authors and the contents of all submitted manuscripts in confidence until such time as the papers are published. This confidentiality extends to the comments of editors and reviewers that have evaluated the paper; these comments and reviews are released only to the corresponding author. Co-authors may have access to these documents either by obtaining them directly from the corresponding author or by submitting to *RJSH* a letter of request that has been signed by the corresponding author. Similarly, *RJSH* expects that editors and reviewers will maintain strict confidentiality of the authors' identities and the contents of manuscripts that they examine during the review process, and furthermore, will never disclose the contents (either orally or in writing) of documents related to the peer review of a manuscript. A violation of this policy is considered a serious breach of trust.

**Research Involving Animals or Humans:** Authors must state in the manuscript that the work was approved by, at least, their institutional ethical review board for any research involving human and animal subjects. These approvals are required for publication in *RJSH*.

#### 5. Manuscript Preparation

**General Instruction:** Submit your manuscript in both PDF and MS word formats. Manuscripts are acceptable in both US and UK English, but the use of either must be consistent throughout the manuscript. Please note that the editors reserve the right to adjust style to certain standards of uniformity.

**Format:** Unless specified, type text with 10-point Times New Roman font on 12-point line spacing, with a 1.25 inch left margin, 1 inch bottom and right margin, 2 inch top margin, 1.2 inch header, and 0.6 inch footer. Main text is set in single column. First lines of paragraphs are indented 0.5 inch. For hard copy, use standard A4 paper, one side only. Use ordinary upper- and lower-case letters throughout, except where italics are required. For titles, section headings and subheadings, tables, figure captions, and authors' names in the text and reference list: use ordinary upper- and lower-case letters throughout. Start headings at the left margin.

If you wish, you may indicate ranking of complicated section headings and subheadings with numerals (1, 1.1, 1.1.1). Try not to exceed three ranks. All pages must be numbered in the top right-hand corner.

**Title:** Use 11-point bold font on 12-point line spacing. The length of the title of the article must not exceed 2 lines. A title should be concise and informative. The alignment of the title is centered.

**Author Names:** Use 10-point font on 11-point line spacing. Centered alignment and leave one line space below the title of the article. Begin with the first name of the author followed by the last name. For more than one author, separate each name by a comma (,), and identify each author's affiliation by superscript numbers at the end of the author's last name.

**Author Affiliations:** Use 9-point font on 10-point line spacing. Centered alignment and leave one line space below the author names. Include institutional and e-mail addresses for all authors. Place superscript numbers at the beginning of each affiliation accordingly.

**Abstract:** Use 10-point font on 11-point line spacing for heading and 9-point font on 11-point line spacing for abstract content. An abstract of up to 250 words must be included as and when appropriate. For research papers; the purpose and setting of the research, the principal findings and major conclusions, and the paper's contribution to knowledge should be briefly stated. For empirical papers the locations of the study should be clearly stated, as should the methods and nature of the sample, and a summary of the findings and conclusion. Please note that excessive statistical details should be avoided, abbreviations/acronyms used only if essential or firmly established.

**Keywords:** List up to 6 keywords and separate each keyword by a comma (,). The keywords should accurately reflect the content of the article. The keywords will be used for indexing purposes.

**Main Text:** Use 10-point font on 12-point line spacing. In the main body of the submitted manuscript the following order should be adhered to: introduction, methodology, results (if any), discussion (if any), conclusion, acknowledgements, and references. Please note that some article categories may not contain all components above. Tables or figures must be included in the text for the reviewing process. In addition, tables and figures must also be submitted individually in separate files. Refer in the text to each table or illustration included, and cite them in numerical order, checking before submission that all are cited and in correct sequence.

**References in the Text:** To insert a citation in the text use the author-year system, i.e., the author's last name and year of publication. Examples are as follows: "Since Johnson (2008) has shown that..." or "This is in agreement with results obtained later (Benjamin, 2010)". For 2-3 authors; all authors are to be listed, with "and" separating the last two authors, for more than three authors, list the first author followed by et al. The list of references should be arranged alphabetically by authors' names. All publications cited in the text should be presented in a list of references following the text of the manuscript. The manuscript should be carefully checked to ensure that the spelling of authors' names and dates are exactly the same in the text as in the reference list. Responsibility for the accuracy of bibliographic citations lies entirely with the author(s). Citation of a reference as "in press" implies that the item has been accepted for publication. Authors are responsible for the accuracy of the content of the references.

**List of References:** *RJSH* uses the American Psychological Association (APA) referencing style, details of which can be found at <http://www.apastyle.org/>. References should be listed at the end of article, arranged alphabetically according to the last names of the authors and then chronologically. The following are examples of the APA referencing style:

#### **Abstracts**

Author./ (Year of publication)./ Title of Abstract (abstract)./ *Journal Title*,/ *Volume*(*Issue*),/ Page number.

#### **Example:**

Clark, D. V., Hausen, P. H., & Mammen, M. P. (2002). Impact of dengue in Thailand at the family and population levels (abstract). *Am J Trop Med Hyg*, 67(2 Suppl), 239.

**Books**

Author./ (Year of publication)./ *Book Title*:/ *Capital letter also for subtitle*./ Edition (if any)./ Location:/ Publisher.

**Example:**

Calfee, R. C., & Valencia, R. R. (1991). *APA guide to preparing manuscripts for journal publication*. Washington, DC: American Psychological Association.

**Article or Chapter in an Edited Book**

Author./ (Year of publication)./ Title of chapter./ In/ Editor/ (Ed.)./ *Book Title*/(pages of chapter)./ Location:/ Publisher.

**Example:**

O'Neil, J. M., & Egan, J. (1992). Men's and women's gender role journeys: A metaphor for healing, transition, and transformation. In B. R. Wainrib (Ed.), *Gender issues across the life cycle* (pp. 107-123). New York, NY: Springer.

**Conference and Seminar Proceedings**

To cite proceedings that are published regularly, use the same format as for a journal article. To cite proceedings that are published in book form, use the same format as for an article in a book.

**Dissertation or Thesis**

Author./ (Year of publication)./ *Title of dissertation or thesis* / (Doctoral dissertation or Master's thesis)./ Awarding Institution.

**Example:**

Norasingha, A. (2009). *Expression and distribution of mucorinic receptors in hepatic composite of the cirrhotic rat* (Master's thesis). Rangsit University, Pathum Thani.

**Editorials**

Author./ (Year of publication)./ Title of Editorial (editorial)./ *Journal Title*./ Volume(Issue)./ Page numbers.

**Example:**

Fisher, R. I. (2003). Immunotherapy in Non-Hodgkin's lymphoma: Treatment advances (editorial). *Semin Oncol*, 30(2Suppl 4), 1-2.

**Journal Articles**

Author./ (Year of publication)./ Article Title./ *Journal Title*./ Volume(Issue)./ Page numbers.

**Example:**

Leelawat, S., Leelawat, K., Narong, S., & Matangkasombut, O. (2010). The dual effects of delta 9-tetrahydrocannabinol on cholangiocarcinoma cells: Anti-invasion activity at low concentration and apoptosis induction at high concentration. *Cancer Investigation*, 28(4), 357-363.

Polk, A., Amsden, B., Scarrtt, D., Gonzal, A., Oknamefe, O., & Goosen, M. (1994). Oral delivery in aquaculture. *Aquacult. Eng*, 13, 311-323.

Seals, D. R., & Tanaka, H. (2000). Manuscript peer review: A helpful checklist for students and novice referees. *Advances in Physiology Education*, 23(1), 52-58.

Srichandum, S., & Rujirayanyong, T. (2010). Production scheduling for dispatching ready mixed concrete trucks using bee colony optimization. *American J. of Engineering and Applied Sciences*, 3(1), 823-830.

**Letters**

Author./ (Year of publication)./ Title of Letter./ *Journal Title*./ Volume(Issue)./ Page number.

**Example:**

Enzensberger, W., & Fisher, P.A. (1996). Metronome in Parkinson's disease (letter). *Lancet*, 347, 1337.

**Notes**

Author./ (Year of publication)./ Title of Note./ *Journal Title*./ Volume(Issue)./ Page number.

**Example:**

Haier, R. J., Schroeder, D.H., Tang, C., Head, K., & Colom, R. (2010). Gray matter correlates of cognitive ability tests used for vocational guidance. *Biomed Central*, 3, 206.

**Unpublished/In Press Articles**

Author./(In press Year)./Article Title./*Journal Title*./(in press).

**Example:**

Veena, B. (2004). Economic pursuits and strategies of survival among Damor of Rajasthan. *J Hum Ecol.* (in press).

**Internet periodicals**

Author./(Year of publication)./Article Title./*Journal Title*./Volume(issue)./ page numbers./Retrieved mm dd, year, from the full URL of the web page

**Example:**

Adams, P. J. (2000). Australian economic history. *Journal of Australian Economics*, 5(2), 117-132. Retrieved June 12, 2001, from <http://jae.org/articles.html>

**Internet non-periodicals**

Author./(Year of publication)./Article Title./Retrieved mm dd, year, from the full URL of the web page

**Example:**

Le mire, D. (n.d.). Write good papers. Retrieved July 1, 2010, from <http://www.daniel-le mire.com/blog/rules-to-write-a-good-research-paper>

**Illustrations and Figures:** All illustrations should be provided in a file format and resolution suitable for reproduction, e.g., EPS, JPEG or TIFF formats, without retouching. Photographs, charts and diagrams should be referred to as "Figure(s)" and should be numbered consecutively in the order to which they are referred. In addition to placing figures with figure captions into the main text, **submit each figure individually as a separate file.**

**Line Drawings:** All lettering, graph lines and points on graphs should be sufficiently large and bold to permit reproduction when the diagram has been reduced to a size suitable for inclusion in the journal. Do not use any type of shading on computer-generated illustrations.

**Figure Captions:** Type figure captions using 9-point font on 10-point line spacing. Insert figures with figure captions into the main text (see **Illustrations and figures** Section). Type as follows: Figure 1 Caption

**Color:** Where printed color figures are required, the author will be charged at the current color printing costs. All color illustrations will appear in color online, at no cost. Please note that because of technical complications which can arise when converting color figures to grayscale, for the printed version should authors not opt for color in print, please submit in addition usable black and white versions of all the color illustrations.

**Tables:** Tables must be cell-based without vertical lines. They should be produced in a spreadsheet program such as Microsoft Excel or in Microsoft Word. Type all text in tables using 9-point font or less. Type the caption above the table to the same width as the table. Insert tables and table captions into the main text. Tables should be numbered consecutively. Footnotes to tables should be typed below the table and should be referred to by superscript numbers. Submit separate files of tables in their original file format and not as graphic files in addition to incorporating in the main text. Tables should not duplicate results presented elsewhere in the manuscript (e.g., in graphs).

**Proofs:** Proofs will be sent to the corresponding author by PDF wherever possible and should be returned within 1 week of receipt, preferably by e-mail. Corrections must be restricted to typesetting errors. It is important to ensure that all of your corrections are returned to us in one all-inclusive e-mail or fax. Proofreading is solely the responsibility of the author(s). Note that *RJSH* may proceed with the publication of your article if no response is received in time.

**Reprints:** Authors will receive free copy of the journal in which their work appears.

**English Language Editing before Submission:** Authors for whom English is a second language may choose to have their manuscript professionally edited before submission.

## 6. Manuscript Submission

Manuscripts should be submitted electronically to the Editor-in-Chief as an attachment to an e-mail ([rjsh@rsu.ac.th](mailto:rjsh@rsu.ac.th)), in word processing format. The *RJSH* submission form must be completed. Included in the submission form are: (a) the title and authors, (b) complete contact information for the corresponding author (mailing address, e-mail address, and telephone and fax numbers), (c) confirmation of the originality of the reported work, (d) approval of the submitted version of the manuscript by all authors, and (e) the authors' consent for publication in *RJSH*, if accepted. The submission form is available at <http://www.rsu.ac.th/RJSH/>.

## 7. Manuscript Revision and Re-submission

There are four editorial decisions: Accept, Accept with Minor Revision, Resubmit with Major Revision, and Reject. A Reject decision is definitive and authors may not submit a new version of the manuscript to the *RJSH*. A Resubmit with Major Revision requires a major re-write of the manuscript and/or inclusion of significant new data, and thus the creation of a new manuscript, which will thus be assigned a new submission date. An Accept with Minor Revision decision implies that the paper can, in principle, attain the required standard of the *Journal* without major change. Editors may or may not have a revised manuscript reviewed (generally, by the original reviewers), in order to ascertain whether changes to the original manuscript adequately responded to the criticisms. If changes made do not result in a paper of the required standard, the revised manuscript will be definitively rejected. If a revised manuscript of "Accept with Minor Revision" is accepted, the original submission date will be retained.

## 8. Copyright Agreement

Once a manuscript is accepted for publication, authors will be required to sign a Copyright Transfer Agreement form (CTA). CTA is available at <http://www.rsu.ac.th/RJSH/CTA/>. Signature of the CTA is a condition of publication and papers will not be passed for production unless a signed form has been received. Please note that signature of the Copyright Transfer Agreement does not affect ownership of copyright in the material. Please submit the completed form with the final version of the manuscript back to the Editor-in-chief.

## 9. Further Reading

The following resources will provide valuable guidelines for the preparation of manuscripts.

Anonymous. (n.d.). How to write abstract. Retrieved January 17, 2011, from

[http://www.journal.au.edu/au techno/2006/jan06/vol9num3\\_howto.pdf](http://www.journal.au.edu/au techno/2006/jan06/vol9num3_howto.pdf)

Anonymous. (n.d.). How to write an abstract: Links and tips. Retrieved January 17, 2011, from

<http://research.berkeley.edu/ucday/abstract.html>

Koopman, P. (n.d.). How to write an abstract. Retrieved January 17, 2011, from

<http://www.ece.cmu.edu/~koopman/essays/abstract.html>

Lemire, D. (n.d.). Write good papers. Retrieved January 17, 2011, from <http://lemire.me/blog/rules-to-write-a-good-research-paper/>

Plonsky, M. (n.d.). Psychology with style: A hypertext writing guide. Retrieved January 17, 2011, from <http://www.uwsp.edu/psych/apa4b.htm>

Seals, D. R., & Tanaka, H. (2000). Manuscript peer review: A helpful checklist for students and novice referees. *Advances in Physiology Education*, 23(1), 52-58.

Jones, A., & Pham, H. (n.d.). Basic Referencing using the APA System, Teaching and learning unit, Faculty of Economics and Commerce, The University of Melbourne. Retrieved February 15, 2011, from <http://www.scribd.com/doc/57603066/A-Pa-Style>

## APPENDIX C

### RANGSIT JOURNAL OF SOCIAL SCIENCES AND HUMANITIES (RJSH)

#### *Research Article Single-Column Template*

Please note that the paper size is standard A4 size (approx 8.27 x 11.69 in)

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The length of the title of the article must not exceed 2 lines.**

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Begin with the first name of the author followed by the last name. For more than one author, type 'and' before the last author's name. For more than two authors, also separate each name by a comma (,).  
Identify each author's affiliation by superscript numbers at the end of the author's last name.)

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Include institutional and e-mail addresses for all authors. Place superscript number in front of author's affiliation corresponding to author's name.)

Submitted date month, year; accepted in final form date month, year (To be completed by RJSH)

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#### **Abstract (10-point bold font on 11-point line spacing)**

For abstract content, use 9-point Times New Roman font on 11-point line spacing. First line is indented 0.5 inch. An abstract of up to 250 words must be included. Include your major findings in a useful and concise manner. Include a problem statement, objectives, brief methods, results, and the significance of your findings.

**Keywords:** List up to 6 keywords and separate each keyword by a comma (,). The keywords should accurately reflect the content of the article. The keywords will be used for indexing purposes.

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#### **1. Introduction**

The actual manuscript will be published in a single-column style in the RJSH journal. This single column template is adopted as a user friendly format. Thus, with this template, the main text is set in a single column. Type text with 10 point Times New Roman font on 12 point line spacing, with a 1.25 inch left margin, 1 inch bottom and right margin, 2 inch top margin, 1.2 inch header, and 0.6 inch footer. First lines of paragraphs are indented 0.5 inch. Please note that the paper size is standard A4 size (approx 8.27 x 11.69 in). In MS Word, select "Page Layout" from the menu bar, and under Paper Size select A4 Size.

The introduction should put the focus of the manuscript into a broader context. As you compose the introduction, think of readers who are not experts in this field. Include a brief review of the key literature. If there are relevant controversies or disagreements in the field, they should be mentioned so that a non-expert reader can find out about these issues further. The introduction should conclude with a brief statement of the overall aim of the experiments.

To insert a citation in the text use the author-year system, i.e., the author's last name and year of publication. Examples are as follows: "Since Johnson (2008) has shown that..." or "This is in agreement with results obtained later (Benjamin, 2010)". For 2-3 authors; all authors are to be listed, with "and" separating the last two authors, for more than three authors, list the first author followed by et al. The list of references should be arranged alphabetically by authors' names. All publications cited in the text should be presented in a list of references following the text of the manuscript. The manuscript should be carefully checked to ensure that the spelling of authors' names and dates are exactly the same in the text as in the reference list. Responsibility for the accuracy of bibliographic citations lies entirely with the author(s). Citation of a reference as "in press" implies that the item has been accepted for publication. Authors are responsible for the accuracy of the content of the references.

## 2. Objectives

The objectives of the study should be specified explicitly.

## 3. Materials and Methods

This section should provide enough detail to allow full replication of the study by suitably skilled investigators. Protocols for new methods should be included, but well-established protocols may simply be referenced.

## 4. Results

The results section should provide details of all of the experiments that are required to support the conclusions of the paper. There is no specific word limit for this section. The section may be divided into subsections, each with a concise subheading. The results section should be written in past tense.

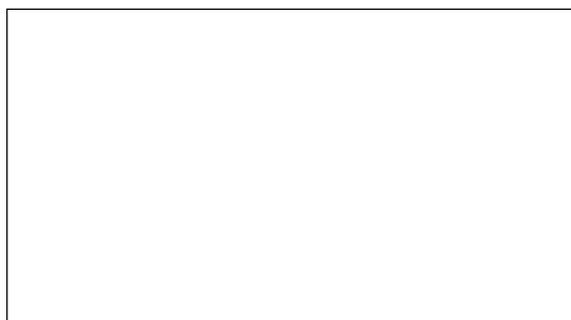
Tables must be cell-based without vertical lines. They should be produced in a spreadsheet program such as Microsoft Excel or in Microsoft Word. Type all text in tables using 9-point font on 10-points line spacing. Type the caption above the table to the same width as the table.

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**Table 1** Table caption

C1	C2	C3	C4
R1			
R2			
R3			
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R5			
R6			

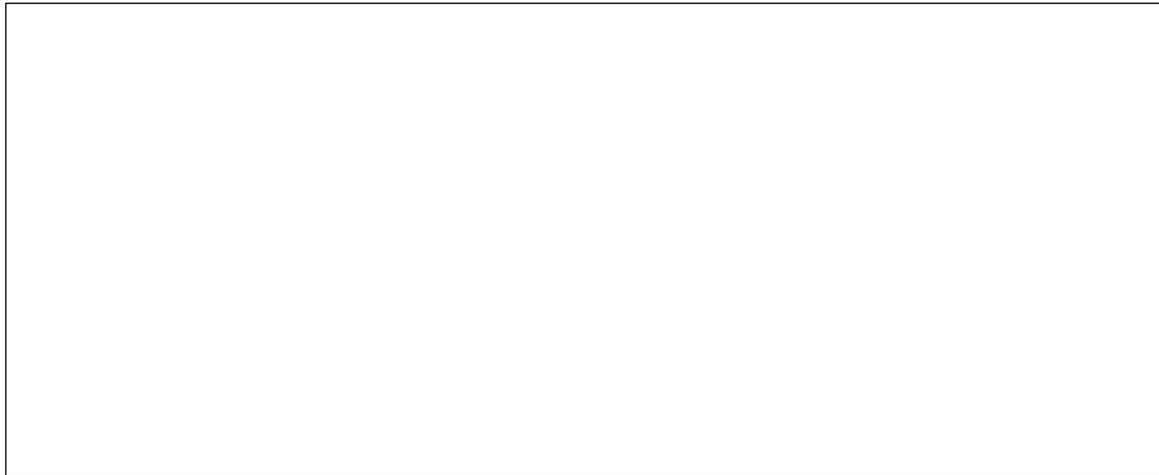
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**Figure 1** Figure caption

**Table 2** Table caption

C1	C2	C3	C4	C5	C6	C7
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R9						
R10						

**Figure 2** Figure caption

## 5. Discussion

The discussion should spell out the major conclusions of the work along with some explanation or speculation on the significance of these conclusions. How do the conclusions affect the existing assumptions and models in the field? How can future research build on these observations? What are the key experiments that must be done? The discussion should be concise and tightly argued. Conclusions firmly established by the presented data, hypotheses supported by the presented data, and speculations suggested by the presented data should be clearly identified as such. The results and discussion may be combined into one section, if desired.

## 6. Conclusion

The Conclusion section restates the major findings and suggests further research.

## 7. Acknowledgements

People who contributed to the work but do not fit criteria for authorship should be listed in the Acknowledgments, along with their contributions. It is the authors' responsibility to ensure that anyone named in the acknowledgments agrees to being so named. The funding sources that have supported the work should be included in the acknowledgments.

## 8. References

RJSH uses the American Psychological Association (APA) referencing style, details of which can be found at <http://www.apastyle.org/>. References are arranged alphabetically according to the last names of the authors and then chronologically. The first line of each reference is aligned left. Use hanging style of 0.5 inch after the first line of each reference. The following are examples of the APA referencing style:

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Author./ (Year of publication)./ Title of Abstract (abstract)./ *Journal Title*,/ Volume(Issue),/ Page number.

#### **Example:**

Clark, D. V., Hausen, P. H., & Mammen, M. P. (2002). Impact of dengue in Thailand at the family and population levels (abstract). *Am J Trop Med Hyg*, 67(2 Suppl), 239.

### Books

Author./ (Year of publication)./ *Book Title*:/ *Capital letter also for subtitle*./ Edition (if any)./ Location:/ Publisher.

#### **Example:**

Calfee, R. C., & Valencia, R. R. (1991). *APA guide to preparing manuscripts for journal publication*. Washington, DC: American Psychological Association.

### Article or Chapter in an Edited Book

Author./ (Year of publication)./ Title of chapter./ In/ Editor/(Ed.),/ *Book Title*/(pages of chapter)./ Location:/ Publisher.

#### **Example:**

O'Neil, J. M., & Egan, J. (1992). Men's and women's gender role journeys: A metaphor for healing, transition, and transformation. In B. R. Wainrib (Ed.), *Gender issues across the life cycle* (pp. 107-123). New York, NY: Springer.

### Conference and Seminar Proceedings

To cite proceedings that are published regularly, use the same format as for a journal article. To cite proceedings that are published in book form, use the same format as for an article in a book.

### Dissertation or Thesis

Author./ (Year of publication)./ *Title of dissertation or thesis* / (Doctoral dissertation or Master's thesis)./ Awarding Institution.

#### **Example:**

Norasingha, A. (2009). *Expression and distribution of mucorinic receptors in hepatic composite of the cirrhotic rat* (Master's thesis). Rangsit University, Pathum Thani.

### Editorials

Author./ (Year of publication)./ Title of Editorial (editorial)./ *Journal Title*,/ Volume(Issue),/ Page numbers.

#### **Example:**

Fisher, R. I. (2003). Immunotherapy in Non-Hodgkin's lymphoma: Treatment advances (editorial). *Semin Oncol*, 30(2Suppl 4), 1-2.

### Journal Articles

Author./ (Year of publication)./ Article Title./ *Journal Title*,/ Volume(Issue),/ Page numbers.

#### **Example:**

Leelawat, S., Leelawat, K., Narong, S., & Matangkasombut, O. (2010). The dual effects of delta 9-tetrahydrocannabinol on cholangiocarcinoma cells: Anti-invasion activity at low concentration and apoptosis induction at high concentration. *Cancer Investigation*, 28(4), 357-363.

Polk, A., Amsden, B., Scarrrt, D., Gonzal, A., Oknamefe, O., & Goosen, M. (1994). Oral delivery in aquaculture. *Aquacult. Eng*, 13, 311-323.

Seals, D. R., & Tanaka, H. (2000). Manuscript peer review: A helpful checklist for students and novice referees. *Advances in Physiology Education*, 23(1), 52-58.

Srichandum, S. & Rujirayanyong, T. (2010). Production scheduling for dispatching ready mixed concrete trucks using bee colony optimization. *American J. of Engineering and Applied Sciences*, 3(1), 823-830.

### **Letters**

Author./ (Year of publication)./ Title of Letter./ *Journal Title*./ Volume(Issue),/ Page number.

#### **Example:**

Enzensberger, W., & Fisher, P. A. (1996). Metronome in Parkinson's disease (letter). *Lancet*, 347, 1337.

### **Notes**

Author./ (Year of publication)./ Title of Note./ *Journal Title*./ Volume(Issue),/ Page number.

#### **Example:**

Haier, R. J., Schroeder, D. H., Tang, C., Head, K., & Colom, R. (2010). Gray matter correlates of cognitive ability tests used for vocational guidance. *Biomed Central*, 3, 206.

### **Unpublished/In Press Articles**

Author./ (In press Year)./ Article Title./ *Journal Title*./ (in press).

#### **Example:**

Veena, B. (2004). Economic pursuits and strategies of survival among Damor of Rajasthan. *J Hum Ecol.* (in press).

### **Internet periodicals**

Author./ (Year of publication)./ Article Title./ *Journal Title*,/ Volume(issue),/ page numbers./ Retrieved mm dd, year, from the full URL of the web page

#### **Example:**

Adams, P. J. (2000). Australian economic history. *Journal of Australian Economics*, 5(2), 117-132.  
Retrieved June 12, 2001, from <http://jae.org/articles.html>

### **Internet non-periodicals**

Author./ (Year of publication)./ Article Title./ Retrieved mm dd, year, from the full URL of the web page

#### **Example:**

Lemire, D. (n.d.). Write good papers. Retrieved July 1, 2010, from <http://www.daniel-lemire.com/blog/rules-to-write-a-good-research-paper>

## APPENDIX D

### RANGSIT JOURNAL OF SOCIAL SCIENCES AND HUMANITIES (RJSH) MANUSCRIPT SUBMISSION FORM

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## APPENDIX E

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