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ST.HILDA'S (RIVER) CAMPUS, UNIVERSITY OF OXFORD, U.K

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APPLIED RESEARCH INTERNATIONAL CONFERENCES

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Conference Schedule Overview

Day 1: Gathering/Coffee at Waterstones, Oxford City Centre. Visit to Oxford University Museum of Natural History, Oxford U.K

Day 2: Canada Room, St.Hilda's (River) Campus, University of Oxford, U.K

Day 3: River Cruise, River Cherwell/Thames, Oxford U.K.

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RESOURCE INTEGRATION MANAGEMENT: DIGITAL NOMADS IN NEW ZEALAND

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Abstract

Resource Integration is a management philosophy, strategy, technique, and activity taken by employers and employees to achieve the desired outcome. New Zealand is one most isolated nations in the world but offers tremendous opportunities, especially for digital nomads. Numerous agreements exist between New Zealand and other countries, and a few of these opportunities make it simple for digital nomads to spend a few years living in New Zealand. This research addresses the resource integration management faced by these nomads and addresses actions taken to manage the challenges. Qualitative methodology and grounded theory were applied to answer the research questions. Snowball sampling with 15 semi-structured interviews and structured observation was conducted to collect data. Thematic analysis was then applied, and the findings were triangulated and shared in a theoretical framework. The framework reveals that the integration of resources among these nomads occurs on three levels: Micro, Meso and Macro. The research concludes that managing these levels is essential because it can lead to high efficiency and effectiveness in the organisations from the tasks carried out among digital nomads in New Zealand.

Keywords: Resources, Integration, Resource Integration Management, Digital Nomads, Remote Working,

Digital Nomads

Since the 1980s, there has been a global trend toward greater international mobility of people, which is motivated by individual aspirations for lifestyle change, freedom of choice and self-fulfilment. These motilities have been seen in various empirical contexts and have assumed a variety of shapes, including

second-home tourism, residential tourism, seasonal and lifestyle migration, global/neo-nomadism, digital nomadism (O'Reilly & Benson, 2009) (Hannonen, 2020). While some people are mobile for work or study reasons, an increasing number of people are choosing to move for lifestyle reasons. They may be seeking a change of pace, a new adventure, or a more fulfilling way of life. This trend is being fuelled by increased affluence and improved transportation (Arkelund, 2013) (Thompson, 2018).

Digital nomads are people who work while traveling and/or travel while working (Hannonen, 2020) (Clark, 2021). The term was first coined in the book Digital Nomad, written by Tsugio Makimoto and David Manners in 1997 (Makimoto & Manners, 1997). The phenomenon has been made possible by advances in technology, particularly the widespread availability of wireless internet. Steve Roberts became the first digital nomad in 1983 when he used a computerized recumbent bicycle to travel across America (Fast Company, 2021). In 2003, Brighton became the first beach as a workplace in Britain to offer wireless internet, and in 2014 Estonia introduced e-Residency, which allows global entrepreneurs to establish firms in the EU without physically being in Estonia (Burkeman, 2003) (Papachristou & Miolene, 2022). In 2023, Non-EU citizens may apply for a special visa to reside as digital nomads (Towey, 2022).

As Covid-19 continues to upend traditional workplace norms, an increasingly nomadic lifestyle is becoming more attractive to employees across the globe. According to recent research, the number of Americans describing themselves as digital nomads rose by 49% between 2019 and 2020, with traditional job holders making up a majority of these workers (Everson, et al., 2021). However, only a few countries have formal laws and programs in place to support this growing population of workers. This lack of guidance can leave countries open to a wide variety of regulatory and legal risks (Cook, 2022) (Reichenberger, 2018). But, simply taking a defensive approach to managing these risks is not enough. Countries need to find ways to embrace the opportunities and benefits that digital nomads can bring. This includes providing the necessary resources to the digital nomads that take into.

New Zealand

New Zealand, or Aotearoa in Maori, New Zealand official language, is an island country in the south-western Pacific Ocean. The North and South Islands are the country's two main landmasses, and there are over 700 smaller islands. New Zealand is the sixth-largest island country by area at 268,021 square kilometres (Stats NZ - Tatauranga Aotearoa , 2022). It is one of the most isolated countries in the world, located approximately 2,000 kilometres east of Australia across the Tasman Sea and 1,000 kilometres south of the islands of New Caledonia, Fiji, and Tonga. Wellington is New Zealand's capital city, and Auckland is its most populous city (New Zealand History, 2022). The country has a population of 5.124 million and an unemployment rate of 3.3%. Almost 94% of the population has internet access with 6.56 million mobile connection users (Ministry of Business Innovation & Employment, 2022).

Before the outbreak of the novel coronavirus, New Zealand was a highly sought-after destination for tourists from all over the world. In fact, between 2016

and 2019, an estimated 11 million visitors came to the island nation. However, due to the pandemic and the closure of border New Zealand and its tourism industry has been dealt a severe blow. On 31st July 2022, the international border of New Zealand was open to all visitors (New Zealand Immigration , 2022).

Currently, visitors who come to New Zealand on a holiday visa are allowed to work remotely for their employer, provided that their primary purpose for being in the country is still tourism. However, the Ministry of Business, Innovation and Employment (MBIE) is considering a more general review of non-standard employment types, which could include digital nomads.

Resources

Resources are the supply of tangible or intangible assets extracted from living or non-living objects in operational activities. Organisations utilise resources to fuel their operations, such as creating and conveying goods and services to its clients (Robbins & Coulter, 2014) (De Neufville, 2016).

Organisations require resources to function effectively. For example, digital nomads need laptops for their daily operational activity. The laptops are used to perform a specific task. The laptop (resource) influences the productivity, quality of the digital nomads. Likewise, the digital nomads themselves are another essential resource for organisations that determines the organisation's ability to achieve the desired level of productivity. Frequently, these nomads are empowered by the authority to perform their assigned duty (Crawley, Swailes, & Walsh, 2013) (Baker & Trietsch, 2009). For instance, online tutors are given the responsibility in the education industry to handle learners. The skills, knowledge, and ability of these tutors are measured which is another type of resource based on numerous criteria such as the passing rates of the students.

There is no widespread consensus on how to identify the different sorts of resources, and these might frequently change depending on the industry focus. However, these resources might be easiest referred to as the 10Ms for simplicity in the context of memory recollection. Machine, Management, Manpower, Market, Material, Measurement, Method, Minutes, Ministry, and Money are the 10 resources, sometimes known as the 10Ms (Anvari, et al., 2011).

Integration

Integration is the bringing together of resources to complete a task. Integration is also the degree to which there are collaborations among resources to achieve the desired outcome (Bartol, et al., 2002). Vargo & Lusch (2004) stated resource integration is the process by which players, such as customers, combine and utilise resources in the quest of value creation.

Integration enables a planning and decision-making process that coordinates resources in order to maximise long-term sustainable benefits while minimising any potential conflicts. Overall, it brings all resource together, rather than each functioning in isolation with the aim to balance organisational needs (Chopra & Meindl, 2016).

Despite its importance, the research on resource integration among digital nomads are still at the infancy stage as there is limited research on the types or levels of resource integration in organisations. Meanwhile, the activities to manage resources in organisations show that integration occurs at different levels, such as integration on a team level versus a departmental level versus a whole of organisation level. Therefore, integration within or between resources requires extensive planning, controlling, organising and leading to achieve the organisation objectives (Chapman, 2006).

Management

Management is a collection of essential people and planning skills required to ensure resources are integrated effectively. It is accomplishing successful activities that coordinate and oversee through a process (Robbins & Coulter, 2014). Thus, management is not a single process, but a collection of processes that are required to ensure the elements of the organisational activities are coordinated adequately. It often involves trade-offs between resources and the analysis of alternatives in order to meet or exceed stakeholder expectations. For example, a trade-off would be the reward (Money) that needs to be paid accordingly to ensure a desirable outcome from the employees (Manpower). Thus, managing resources is not an easy task, and it is needed in all organisation regardless of its size or organisational levels.

Digital nomads are expected to accomplish their work activities effectively and efficiently. Efficiency in operations is defined as actions taken by these nomads in utilising the least input to attain the most output such by "doing things right". Thus, efficiency focuses on the usage of resources during the process. On the other hand, effectiveness focuses on the results attained. Effectiveness is established with nomads making the appropriate decision. So, effectiveness includes activities such as "doing the right things" (Daft, 2003). Therefore, digital nomads must decide on the appropriate amount of resource integration and how those amounts are used in order for the organisation to achieve efficient and effective management (Hiezer & Barry, 2014).

Methodology

A qualitative strategy was selected for this research study and qualitative research methods were used to produce data about personal experience and about the meanings behind social actions.

The research objectives were to understand the resource integration management within the digital nomads. Hence, the three research questions were;

1. What are the types of ***resource(s)*** used or applied by these nomads?
2. What are the types of resource ***integration*** activities faced by these nomads?
3. What actions are taken by these nomads to ***manage*** the resource integration opportunities and challenges?

A systematic review was used in this study with the intention to draw conclusions about digital nomads in New Zealand and intervention of resource integration management using the best available data from a variety of sources. The review served as a basis on which the researchers could offer pertinent advice for theory and practise. Next, theoretical review was also used to examine the set of theories that has accumulated in relation to a problem, concept, theory, or

phenomenon. The review of theoretical literature allowed researchers identify pre-existing theories, examine the connections between theories and introduce new frameworks or hypotheses for testing.

Grounded theory was decided to be the most appropriate framework as the research started with a collection of data (Glaser & Strauss, 1967). Therefore, researchers applied grounded theory began with the research questions. Next, snowball sampling was applied to achieve the targeted 23 sample size. However, due to time limitation the researchers' sample size was only 15. Semi structured interviews were applied to generate and collect data.

Systemic observation was also used as a data collecting methodology in which researchers acquired information without having direct contact with the participants and the technique was structured in a clear-cut and methodical way. Researchers were able to gather information from the observations that were not possible through interviewing participants.

While reviewing the collected data, the questions became apparent to the researchers and several concepts emerged from the collected data. The researchers then tagged those concepts with codes which succinctly summarised the concepts. The researchers applied initial, intermediate, and advanced coding. During the initial coding, data was grouped into higher-level concepts and then subsequently into categories. These categories may in turn become the basis of the new theory. Next, the researchers applied intermediate coding by selecting the core category and proceed with data saturation. Finally, both advanced coding storyline and theoretical coding were applied. To ensure the research was unbiased the researchers avoided any preconceived theories and the focus has been towards the collected data only. Moreover, the coding activities were stopped when researchers reached theoretical saturation; the point where one has sampled and analysed the data until the researchers have exhausted all theories and uncovered all data.

As a result, categories were integrated into a framework. The researchers applied inductive reasoning as they made broad generalisations from specific data. Thus, the conclusions were drawn from the data. This is approach is known as inductive logic as inductive inference were made from specific to general.

Findings & Discussions

Researchers found that digital nomads make good use of all 10 resources or 10Ms. The following are some of the common (sample) workplace resources used by the interviewees (Digital Nomads).

	Resources	***Examples listed digital nomads***
1	Machine	Laptops & mobile phones
2	Management	Supervisors & Senior Managers
3	Manpower	Employees & Team members
4	Market	Customers
5	Material	Documents & Emails
6	Measurement	Key Performance Indicators
7	Method	Standard Operating Procedures
8	Minutes	Deadlines

9	Ministry	Government
10	Money	Cash & Credit Cards

Meanwhile, findings revealed that integration and management could occur at three (3) distinct levels which are known as micro, meso, and macro. Micro integration or informal integration that occurs at the smallest scale between individuals (digital nomads) in the same resource. Interviewees indicated the easiest way to differentiate these levels of integration is through a common observation at the workplace. For, example, the daily conversation between digital nomads via WhatsApp.

"Most of the integration occurs at an informal manner when, for example, my employees (Manpower) often discussion with me (Manpower) about their work and it happens almost every day"

"These are informal discussions as it does not require any formal invitation. Most of these integration activities are not documented".

The next level of integration would be meso, the mid-scale integration, which occurs between groups in the same resource.

"There are semi-formal integration occurs at digital workplace. For instance, employees from my department (Manpower) communicate and integrate with other department's employees such as IT (Manpower). Sometimes, we (nomads) could be working together to solve issues".

"Some of the cross department tasks and meetings are usually held via zoom documented but some are not"

Finally, macro is the largest scale integration that occurs between various resources. It can be considered as formal. Most of these integration requires planning and are most likely documented.

"Our employees (Manpower) work closely with the government agencies (Ministry) to develop policies. Almost all communication and sessions were documented"

"Due to the service level agreements set by the senior management team (Management), the staff (Manpower) offer to customers (market) via various software such as Hubspot, Moodle or Zoho"

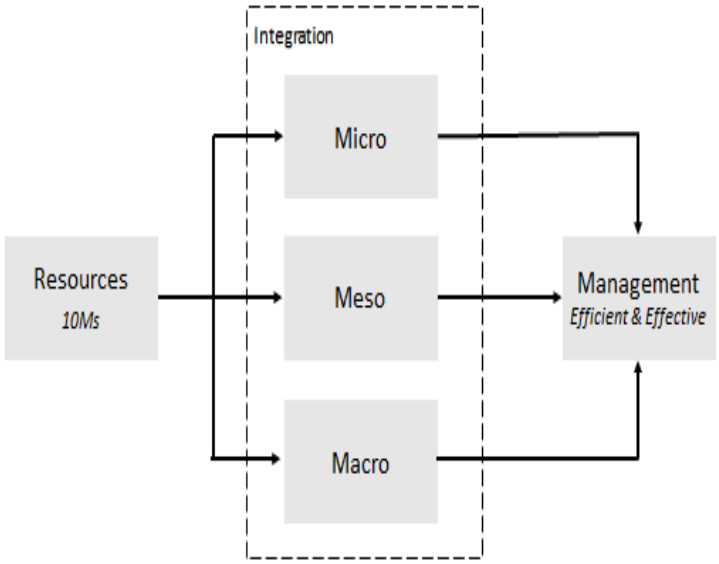
Resource integration Management (RIM) is a collection of processes required to guarantee that the various organisational operations are adequately coordinated. Occasionally, it requires making trade-offs between resources and alternatives in order to meet or surpass management's and consumers' expectations. For instance, a trade-off would be the machine (software and hardware) that must be outfitted appropriately to enable the digital nomads' (manpower) productivity.

Digital nomads who travelled through New Zealand reported the following challenges. Due to its geographical isolation, New Zealand is shut off from the rest of the globe. Australia is one of the geographically closest countries to New Zealand and is approximately three hours away by plane. Therefore, working in New Zealand can be difficult for digital nomads travelling from other countries, particularly those travelling from neighbouring countries. Following that, time zone differences would be another significant issue. Due to the fact that it is 12 hours ahead of Greenwich Mean Time (GMT), New Zealand is one of

the first places in the world to experience a new day. This may make it difficult for digital nomads to communicate with stakeholders in other nations, especially in Asia, Africa, Europe, and North America. Included among stakeholders are managers, suppliers, and customers. New Zealand's geographical isolation contributes to the high cost of practically all of its goods and services. Consequently, the cost of living in New Zealand is relatively high. Clearly, New Zealand has one of the highest property price-to-income ratios in the world (145.4) compared to other nations (New Zealand History, 2022). Internet connectivity is necessary for a digital nomad to earn a living. New Zealand came in at number 27 on the list of countries worldwide based on the average download speed of our internet connections. However, the internet speed in New Zealand is only 14.7 Mbps on average, which makes the country an unfavourable choice for remote work (Ministry of Business Innovation & Employment, 2022).

Digital nomads feel that New Zealand is a fantastic tourism destination that will draw a large number of nomads despite the obstacles described. This is due to the country's breathtaking natural beauty, diverse economy, and unhurried way of life. Nomads are able to continue their employment due to the availability of contemporary facilities. Despite the country's remoteness, the nation's transportation and communications infrastructure are superior. In addition to its rich cultural milieu, the fact that English is a widely spoken language makes it convenient for a significant percentage of nomads to live and work in New Zealand. Respondents have often emphasised that New Zealand's greatest qualities are that it is a democratic, peaceful, and least corrupt nation in compared to the rest of the world, as well as having an exceptionally high quality of living. Therefore, due to its quality, Digital nomads can integrate and manage their resources effectively and efficiently. Evidently, for several years in a row, New Zealand has been consistently ranked number one in the world for ease of doing business. Hence, it justifies New Zealand is a suitable location and could offer abundant of opportunities to the digital nomads.

As a conclusion, the following theoretical framework has been proposed by the researchers to define the concept and definition of Resource Integration Management (RIM). RIM is about managing integrated resources and can be defined as the 10Ms (Resources) that are integrated in the organisation through 3Ms (Integration) with the support of 1M (Management). RIM is an important practice that provides significant benefits towards greater management effectiveness and efficiency.



Conclusion

This research has brought together three concepts to propose a theory on how digital nomads in New Zealand control and distribute their limited resources to accomplish their goals. While there are many different types of resources in organisations, this theory brings them into 10 categories. These resources are called the 10Ms and are Machine, Management, Manpower, Market, Material, Measurement, Method, Minutes, Ministry and Money. This theory also recognises 3 levels of integration of resources. These 3 levels are micro (at the individual level), meso (between groups in the same resource), and macro (between various resources). Lastly, this theory understands the importance of management in the integration of said resources at the 3 levels in achieving both efficiency and effectiveness among the digital nomads in New Zealand.

Now that this new theory has been proposed, the challenge will be using the theory in practice. The theory was created using an inductive reasoning methodology and so it would be interesting to use it in a deductive research project.

It would also be interesting to better understand how Management can be both a resource and the main vehicle to integrate itself and the other nine (9) resources at all 3 levels of an organisation. How much integration happens at each of the 3 levels within the digital nomads?

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HYBRID APPROACH AND IDENTITY BASED SIGNATURE ENCRYPTED DATA IN PUBLIC CLOUD

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Abstract

Near-Field Communications (NFC) and Wireless Sensor and Actuator Networks (WSAN), which are connected by Radio-Frequency Identification (RFID) technology, form the backbone of the Internet of Things (IoT) network (RFID). Machine-to-machine communication, also known as M2M communication, has developed on the Internet in recent years as a result of the convergence of the Internet and sensor networks. This has made it possible for a vast number of autonomous and self-organized devices to communicate with one another. We carried out a number of tests in order to evaluate the effectiveness of the IBET scheme. The goal of this hybrid strategy is to protect sensitive data using identity-based encryption. In particular, we put into action the very effective BB04 IBE scheme so that we could evaluate its performance in comparison to ours in terms of the production and access of files. IBET makes it possible for data owners to protect data that has been outsourced by implementing identity-based access control. This gets rid of the need for users to deal with complex cryptographic certificates. In addition, IBET offers a transformation mechanism that enables data owners to authorise a cloud service provider (CSP) to convert a file that is in IBE-ciphertext format into a file that is in IBBE-ciphertext format. This allows a set of authorised users to access the data that is underlying the file. A physical IBET technique that is safe against strong assaults is something that we offered. In this paper we study the hybrid approach and identity-based signature encrypted data in public cloud.

Keywords: Hybrid approach, IBET, Encryption, cloud service provider

Investigating Service Quality using SERVQUAL Model in Public Transportation: Evidence from Nanded City

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Abstract
This particular empirical investigation was conducted in the city of Nanded, in Maharashtra's far western area. Using the SERVQUAL paradigm, we can determine how much public transportation really deviates from ideal customer experiences. Nanded City residents have shown that they are knowledgeable travelers with high expectations. They are professionals in using public transportation in a variety of places throughout the globe. The methodologies utilised in this research allowed for the calculation of a 95% confidence interval, showing that the whole population of Nanded city agreed with the respondents, while reducing the number of rare outcomes to a negligible 5%. The service environment (which includes the tangibles component) is where the gap between expectations and perceptions is the greatest, according to the findings of the study. However, satisfaction with the results and processes was just average. However, the assurance dimension's variables have a net negative impact on the rating of the Nanded public transportation system in terms of the level of service it delivers to city inhabitants.

Self-representations of Latin American Female Nikkei Film Directors

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Abstract

This study proposes film analyses of the search for self-identification and representation of cultural identities of three Latin American female nikkei directors in their films. The Japanese migration flow to the Americas began in 1869, first to Hawaii, then to California, in the United States. The anti-Asian movement in North America, followed by the 1907 Gentlemen’s Agreement, hindered Japanese immigrants' life, so, in accordance with Latin American countries, the Japanese government started to send workers to Peru in 1899, and to Brazil in 1908. Although Japanese immigrants faced similar discrimination, Latin American countries were initially eager to accept foreign workers because of the need for workforce supply after slavery was abolished. Many have run away to urban areas, started their own small business, or worked in factories during the modernization period of big Latin American cities. Until today, there is an underrepresentation of this minority group in the region’s media and politics, but some directors are working to change the image society has of them, as well as the need to individually understand their own history. The three fourth-generation nikkei women directors chosen are Harumi Lopez Higa and Cyntia Inamine, from Peru, and Kaori Flores Yonekura, from Venezuela. They all focus on documentaries searching for their Japanese ancestry by interviewing their family members and people around them, their voices are also present through voice-overs. Their search for self-identification is shown in the form and content of short and middle-length films, their cultural identity is heavily based on the immigrant aspect of their roots, in being Japanese descendants in Latin America and female film directors. Higa uses archive materials to talk directly to the women of her family through voice-over. Inamine visits her grandparents and interviews them while maintaining an in-camera distance from her grandfather, there’s a physical barrier between

them in the form of walls or glasses, as well as the lack of closes and an abundance of long-distance shots. Yonekura explores her origins by interviewing people in Japan, relatives she discovers while travelling to her grandparents' home country; in Peru, she finds other descendants of Japanese immigrants that lived together with her family; and in Venezuela, close friends of her family's small grocery store. Their stories have shared commonalities, pointing toward the possibility of a common audiovisual cultural memory, moreover, their individuality makes their films relevant to film analysis and minority representations in films.

Technological Innovation Systems (TIS) as a tool a sustainable development of EdTech, startups in developing countries: a case of Republic of Kazakhstan.

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Abstract

The aim of this paper is to identify the main issues of EdTech startups and to find a comprehensive picture of the role of innovation within the entrepreneurial ecosystem in Kazakhstan. The Technological Innovation Systems (TIS) framework has become more popular for the analysis of innovation dynamics and to understanding the development of new technologies. TIS is an approach for studying innovation networks and their dynamics. First, we identify the main strength and weaknesses of Kazakhstan's EdTech startups, we are interested in the dynamic relationship between government, entrepreneurs, and researchers.

To achieve these goals we used analyzed data from questionnaires and interviews as a combined method of research. Increasing the popularity of the startup culture in Kazakhstan is one of the main goals of this study. During analyzing the previous works of other researchers also, the authors have their practical and scientific experiences of working with startups and entrepreneurs. Further, we have utilized previous research and publications on the topic. Published sources include and are divided by general fields of research: research methodologies, interviewing, technological innovation systems (TIS) as a framework, and educational technologies, startup culture, innovation systems, and entrepreneurship context in developing countries, also reports of Global Entrepreneurship Monitor from last two years was reviewed and analyzed.

To explore the relevant questions more than 50 companies have been involved in our analysis, half of that companies are participated in survey, which initially have been grouped by their level of investments and development stages. Our results of questionnaire and interview suggest that the quality of the entrepreneurial ecosystem reflects the level of economic development. The interviews process includes sets of questions about how their projects has developed and what kind of difficulties their faced during the implementation of idea.

The interviewing of the EdTech startups; the result shows the most common answers, which are provided by group and coding. During the interview and from the answers to the open question in the survey. The most common responses are grouped here by frequently faced answers. Also, we reviewed problems concerning startups, such as financing, determining the stages, lack of human resources, fear of venture organizations, absence of the culture of investments, etc. However, developing countries usually lag in this function. In contrast, developed countries typically work at the cutting edge of technology and knowledge, helping them to be more innovative.

Keywords: technological innovation systems, EdTech startups, entrepreneurial ecosystem, innovation, developing countries, startup culture.

Analyst coverage and real earnings management: Does IFRS adoption matter? UK evidence

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Abstract

The purpose of this study is to examine the impact of equity analyst coverage on managers' earnings management decisions. The study further investigates the effect of mandatory IFRS adoption on the relationship between analyst coverage and real earnings management (REM).

Design/methodology/approach – To examine the association between analyst coverage and REM, we construct a sample of UK non-financial listed firms for the period 1994-2018, adopting two measures of REM based on Roychowdhury (2006), Abad, Cutillas-Gomariz, Sánchez-Ballesta, and Yagüe (2018). Robust regression models are constructed to ensure the validity of our principal findings. To address any endogeneity problems, we perform a two-stage least square regression.

Findings – The results demonstrate that firms followed by a large number of

financial analysts record high levels of earnings management. This result supports the contention that high intensity of analyst coverage imposes extra pressure on firms' managers to meet analysts' earnings per share (EPS) expectations, motivating a higher level of earnings management. Contrary to expectations, the mandatory introduction of IFRS fails to strengthen the monitoring role of security analysts on firms' management: rather, managers utilise the inherent flexibility and available discretion in the principles-based IFRS to meet analysts' benchmarks by means of REM activities. These results are robust after controlling for endogeneity.

Originality/value – This study provides new evidence of the association between analyst coverage and the REM phenomenon among publicly listed companies. Evidence on this topic is scarce, mixed and focuses predominantly on the US market. In addition, this study extends existing work on earnings management by applying REM as an alternative to the classic and modified Johns' accruals-based models of earnings management. Moreover, this paper extends previous research on the economic consequences of IFRS adoption and provides the first evidence of whether the regulators' decision of mandating this adoption affects the relationship between securities analysts and REM.

Perturbed Lagrange RBF method for the solution of the elliptic BVP

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Abstract

In this work, we will present and discuss a new method called perturbed Lagrange RBF that provides an approximate solution for an elliptic BVP. The advantages of this method can be observed by obtaining a smaller condition number which provides more stability for the constructed solution. **Kansa** [2], proposed a symmetric method to solve PDEs using RBF, known as **Kansa**'s method or **RBF** collocation method. This method belongs to the meshless methods. It does not require any domain or surface discretization, so they are cost effective. However, the **Kansa** method as well as its different versions and modifications have some drawbacks. In fact, in the regions adjacent to the boundary of the domain, the accuracy method is weaker. The normal way to improve the accuracy is to increase the number of interpolation points, which results in a high number of conditions of the matrix and this deteriorates the stability of the method. Thus, the method is not useful for problems with large definition domains where a large number of interpolation points are required. When we increase the number of collocation points in the whole physical domain, the interpolation matrix becomes ill-conditioned. In addition, it is always difficult to find the optimal shape parameter of various RBFs.

To remedy this problem, several methods were proposed such as the symmetric collocation method (**SCM**), the modified collocation method (**MCM**), the domain decomposition method (**DDM**), [2]. Hoping to participate in this domain of discussion, we will introduce a modified method of Lagrange RBF (**LRBF**) which

provides an approximate solution of the elliptic **BVP** with smaller condition number.

Keywords: Radial basis functions (RBF), Stability and approximation errors; Lagrange RBF method, BVP.

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A Qualitative Analysis of Food Insecurity in México: Accessibility, Income, and Job Precarity

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Abstract

Degrees of marginalization can determine levels of food insecurity experienced by households per neighborhood, specifically, challenges on food accessibility, food portions available for consumption, and the magnitude of concern pressing issues related to food insecurity trigger in households. Our qualitative study is based on data from urban and semi-urban areas located in four states of Mexico (Ciudad de Mexico, Estado de Mexico, Oaxaca, and Tamaulipas), all these geographics entities encompassing differentiated levels of well-being. The paper analyzes data collected from 220 in-depth interviews, examined through a thematic analysis' methodology. Based on levels of marginalization, our analysis provides answers to the following questions: how issues related to food insecurity differ? What is the magnitude of concern related to food insecurity among households? What relationships exists between food access and consumption with levels of concern for the lack of thereof?

Data analysis demonstrates that neighborhoods with high and very high levels of marginalization present low levels of food consumption in households. Neighborhoods with medium levels of marginalization indicate that even though food accessibility and consumption are not pressing issues, having sufficient disposable income to meet households' demand—related to quantity and quality of ingredients—represent the challenge. Despite the absence of serious economic difficulties, neighborhoods with low levels of marginalization indicate having to reduce meal portions to be able to feed all households' members. Those neighborhoods located with very low levels of marginalization have occasionally had to modify the quality of food ingredients to secure meals for all households' members due to insufficient income. Our study demonstrates that food accessibility and consumption relate to the magnitude of concern experienced by households, irrespectively of neighborhoods' levels of marginalization. Moreover, the degree of food insecurity's concern increases with the following: presence of children, illness among family members, heads of households' lack of fixed income and job stability. The ultimate purpose of our study is facilitating an analysis that tackles the contemporary issue of food insecurity from a comprehensive approach to well-being in hopes of assisting and influencing policy making moving forward.

Keywords: Food Insecurity, Inequality, Food Sovereignty, Food Poverty

Interruptive Structural Model (ISM) for assessing Critical Productivity Factors Post-Covid 19 Pandemic

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Abstract

The construction industry is a vital sector in developed and developing countries through its contribution to Gross Domestic Product (GDP) and employed workforce. It considers a human-intensive industry despite the massive development in technologies. Thus, productivity plays a significant effect on the success of construction projects which directly reflects on projects' cost, quality, and time. Nowadays, after crossing Covid 19 pandemic, the construction industry is an important sector for saving the national economy. However, the Covid 19 pandemic has created new ways of thinking due to massive and unpredictable socioeconomic consequences. Thus, understanding the critical productivity factors after the Covid 19 pandemic will enhance the construction industry by understanding the professionals involved at the early stage of the project lifecycle. Therefore, this study aims to determine the critical productivity

factors after Covid 19 pandemic for enhancing the construction industry in developing countries such as Jordan. Literature review for similar topics before Covid 19 pandemic were explored, then a questionnaire was distributed across the Jordanian construction industry to determine the critical productivity factors post-covid 19 pandemic. A focus group was used to determine the interrelationship among the factors using the Interpretive Structural Modelling (ISM) approach. The obtained results indicated twenty-two critical productivity factors with a mean of more than 3.0 are affecting the Jordanian construction industry. These factors are distributed over six levels of ISM. The lack of empowerment, poor communication, and coordination, workers will adhere to safety measures and infection control policy, and utilizing traditional construction methods instead of modern technology are the main factors post-covid 19 pandemic affect productivity in the construction industry.

Neuromarketing and Global Branding Reaction Analysis Based on Real-Time Monitoring of Multiple Consumer's Biosignals and Emotions

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Abstract

Consumers' selections and decision-making processes are some of the most exciting and challenging topics in neuromarketing, sales, and branding. Multicultural influences and societal conditions are also crucial to consider from a global perspective. Applying neuroscience tools and techniques in international marketing and consumer behavior is an emergent and multidisciplinary field that aims to understand consumers' thoughts, reactions, and selection processes in branding and sales. This study focuses on real-time monitoring of different physiological signals using eyetracking, facial expressions recognition, and Galvanic Skin Response (GSR) acquisition methods to analyze consumers' responses, detect emotional arousal, measure attention or relaxation levels, analyze perception, consciousness, memory, learning, motivation, preference, and decision-making. The primary purpose of this research was to monitor human subjects' reactions to these signals during an experiment designed in three phases consisting of different types of branding advertisements. The non-advertisement exposition was also monitored while gathering survey responses at the end of each phase. A feature extraction module was implemented with a data analytics module to calculate statistical metrics and decision-making supporting tools based on Principal Component Analysis (PCA) and Feature Importance (FI) determination based on the Random Forest technique. The results indicate that when compared to image ads, video ads are more effective in attracting consumers' attention and creating more emotional arousal.

Keywords: Neuromarketing, Branding Reaction, Consumer Biosignal, neurosciences, Galvanic Skin Response, eye-trac