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Editors' Note

I am delighted to present the 7th Volume of Management Issues, one of two journals published by the faculty of Management Studies of the Open University of Sri Lanka. Management Issues provides a really exciting opportunity to consider the truly interdisciplinary nature of management and entrepreneurship at a time of great change across the wider management landscape.

The objective of Management Issues is to provide a really exciting opportunity to our own students and established scholars in the faculty to publish the interdisciplinary nature of issues in managing organizations. Nonetheless, there are two key reasons why this volume of management issues is noteworthy. First, carefully chosen, excellent research articles that were submitted to the 2nd International Conference of Management and Entrepreneurship (ICOME 2023) enrich the issue. This furthered the goals of our publication by enabling us to publish original, high-caliber research pieces that are current as well as perceptive and pertinent reviews. The journal strives to be lively, interesting, and approachable while still being integrative and demanding.

This publication holds additional significance as it is the last volume to be released under my tenure as editor-in-chief. Having now served as the editor of *Management Issues* for over five years, I would like to reflect with you, our scholarly community, on the journal's mission and trajectory. The globe is facing numerous challenges due to the economic crisis and ongoing changes in the business management landscape, making the crucial necessity of research connected to management concerns more apparent than ever.

I'm immensely proud of the research that's been published in *Management Issues*, which has shed light on topics such as online gamification, globalization challenges, dynamic leadership, the role of corporate entrepreneurship, etc. Additionally, I understand very well that we must keep Management Issues as open, pertinent, and inclusive as we can. I have the good fortune to have a very productive team behind me. We are pleased to present Volume 7 of the Faculty of Management Studies' annual research publication and sincerely hope that this tripartite support will continue in the future to make Management Issues one of the top research publications in Sri Lanka. We thank our advisors, reviewers, and editorial staff for their assistance in bringing this publication to completion.

Prof. H.D.D. Champika Liyanagamage

Editor-in Chief

THE ROLE OF CORPORATE ENTREPRENEURSHIP IN THE DEVELOPMENT OF EFFECTIVENESS OF THE GOVERNMENT HEALTH SECTOR IN SRI LANKA

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Abstract

People's perceptions of public sector services across the world are unsatisfactory. As a result, in order to improve institute performance, top management extended the notion of corporate entrepreneurship to the public sector, mostly in developed countries. Where the notion was applied, organizations exhibited a high degree of productivity. Previous research studies done in other countries discovered that the use of corporate entrepreneurship has a beneficial impact on the functioning of health institutes. However, there are relatively few researches on the state health system when implementing Corporate Entrepreneurship. Particularly, a very limited number of qualitative researches were performed on this study area. The vacuum brought much attention to researchers in the current study. Therefore, it will be acknowledged substantially to fill the gap when the background formation of the Sri Lanka public health sector is studied. To carry out this research, Qualitative case study-based research method was executed. The findings are based on the observations obtained through twenty interviews conducted using the semi-structured interview guide on the top managers from ten public health organizations awarded with productivity awards. According to the conclusions, individual influences (proactiveness, autonomy, goal-orientation), external influences (customer satisfaction, community support), and organizational influences (organizational support, reward & recognition) have a beneficial impact on corporate entrepreneurship inside the institution, while constraints such as insufficient staff, financial barriers have a negative impact on the organization's efficacy, efficiency, and quality. However, several limits and practical consequences were discovered while steering this study.

Keywords: Corporate Entrepreneurship, Public Health Sector, Top Managers, Influences, Constraints

Introduction

Sri Lanka provides free healthcare to all its residents regardless of socioeconomic status, or geographical location. Compared to other developing nations, the Sri Lankan healthcare system appears to contribute to good health results (Grimm & Pallegedara, 2017). However, there are certain flaws with the quality and efficiency of its services (Jimba & Shibanuma, 2016). The majority of public hospitals nowadays are overcrowded, with long lines in the OPD and clinics. Nonmedical sectors are to blame for the majority of client discontent. Inadequate treatment, a scarcity of medication and other supplies are all factors that contribute to patient discontent (Dissanayake, 2013; Jimba & Shibanuma, 2016). Hence, as a solution for this issue corporate entrepreneurship can be applied to public health sector (Banda & Kazonga, 2018). In the health industry, entrepreneurial behavior can lead to a healthier population, which may contribute to economic prosperity (Banda & Kazonga, 2018). Provision of innovative health services helps to lessen the country's illness load (Banda & Kazonga, 2018). A healthy population is more productive and this productivity can help the Sri Lankan economy.

As in many other countries, the Sri Lankan health system consists of both states and the private sector and Ministry of Health regulates both sectors. State-sponsored healthcare is free in Sri Lanka and delivered through an extensive primary to tertiary healthcare network of centers, hospitals, and dispensaries located throughout the country, reaching most of the community (Samarage, 2006). In developing countries, public sector services have

been recognized and proven to be non-effective and less efficient (Ghina, 2012). Some researchers found applying corporate entrepreneurship to the public sector may help overcome this issue (Deshani & Weerasinghe, 2015). However, it is important to acknowledge that organizational realities change significantly; implying that the goals, objectives, restrictions, tactics, and outcomes associated with successful corporate entrepreneurs are distinct in public sector firms in public sector (Ghina, 2012). Corporate entrepreneurship issues have generated a growing interest among academics and policymakers. But, there are very few studies conducted to find out the relationship in between corporate entrepreneurship and the public sector performances (Banda & Kazonga, 2018). This study will move a step further to fill the empirical gap of corporate entrepreneurship in the Sri Lankan public health sector.

There are 1103 government hospitals (MOH, 2020) and 49 private hospitals registered under the Ministry of Health (PHSRC, 2019). Even though public health care system seems to contribute well to the general public, they are willing to choose private healthcare system instead of public health sector (Grimm & Pallegedara, 2017). Patients satisfaction mainly focused on responsiveness, safety and quality. The patient's perception of service responsiveness is influenced by the connection between the health-care practitioner and the patient. If the goal is to increase and sustain customer happiness with services, efforts must be made to combine seamless communication and a better rate of responsiveness. However, there are quality gaps in the organization, methodology, and outcomes of public hospital services. Scarcity of skilled staff, equipment, facilitated premises and old procedures are seen as structural challenges. On the other hand, private sector hospitals act in a completely opposite manner when it comes to handling a patient. Therefore, patients are more willing to get the private sector's health services with the comfortable experience even they have to pay higher prices for the services (Grimm & Pallegedara, 2017). Private sector enterprises allow its employees to apply corporate entrepreneurial elements to gain high profits. But government hospitals are bureaucratic organizations, and characteristics of bureaucratic firms limit corporate entrepreneurship application into the organization.

This study aims to understand the improvement of the effectiveness of services offered by government hospitals after applying corporate entrepreneurship to public healthcare institutions. It will help to find the underlying reasons for the ineffectiveness in public health sector which caused patient's dissatisfaction and how managers can harness the benefits of corporate entrepreneurship.

In such a context, this study will address the following research questions:

- a) What factors influence corporate entrepreneurial behavior and actions of the top managers?
- b) What are the constraints for corporate entrepreneurship in the public health sector?
- c) Why corporate entrepreneurship is important in the performance of the public health sector in Sri Lanka?

The Aim of the Study

This study aims to understand the improvement of the effectiveness of services offered by government hospitals after applying corporate entrepreneurship to public healthcare institutions. It will help to find the underlying reasons for the ineffectiveness in the public health sector which caused patients' dissatisfaction and how managers can harness the benefits of corporate entrepreneurship.

Literature review

The term "entrepreneurship" was rooted from a famous article by French economist Richard Cantillon, who defined it as "self-employment with an uncertain return (Kinney, 2019). Previous entrepreneurial studies has mostly focused on explaining what types of individuals engage in entrepreneurial activity, and if they identify and utilize possibilities (Eckhardt & Shane, 2013). Shane (2013), entrepreneurship includes both the enterprising individual and the entrepreneurial opportunity. Over the previous four decades, the notion of corporate entrepreneurship has developed, and definitions have changed dramatically. Early study in the 1970s focused on venture teams and how entrepreneurship might be promoted within existing firms. Researchers defined corporate entrepreneurship in the 1980s as entrepreneurial conduct that necessitated organizational sanctions and resource commitments in order to produce various sorts of value-creating innovations. Corporate entrepreneurship influenced by characteristics of three main categories; individual characteristics, organizational characteristics and external characteristics (Camelo-Ordaz, Fernandez-Alles, Ruiz-Navarr, & Sousa-Ginel, 2011). When considering about individual characteristics; skills and attitude, risk taking propensity, desire for autonomy, need for the achievement, goal orientation, internal locus of control, proactiveness, self-confidence and motivation were identified (Divakara, 2019; Mokaya, 2012).

Previous researchers has identified organizational characteristics as; management support, organizational culture, work discretion, autonomous, organizational boundaries, reward and recognition, work system and external characteristics as industry globalization, competitive rivalry, technological opportunity, unfavorability of change, customer demand and government regulations (Divakara & Surangi, 2021; Mokaya, 2012). Corporate entrepreneurship is defined as entrepreneurship that takes place within a company, either through corporate venturing or strategic entrepreneurship (Kuratko, 2010).

The first main area of corporate entrepreneurship is corporate venturing, which encompasses a variety of ways for starting, expanding, or investing in new enterprises (Keil, McGrath, & Tukiainen, 2009). Strategic entrepreneurship techniques, on the other hand, have as a commonality the demonstration of large-scale or otherwise highly important innovations used in the quest of competitive advantage. Innovation may occur in any of five areas using strategic entrepreneurship approaches: the firm's strategy, product offerings, service markets, internal organization (i.e., structure, procedures, and competencies), or business model (Kuratko, 2010). Organizations can be uplift through the innovations (Divakara, 2017).

When there is a compromising relationship between two parties where one party called principal and other party called agent and principals hire agents for resolve problems on behalf of them called agency theory (Floyd & Lane, 2000). Hence, in study context government plays as the principal and managements play as agents (Floyd & Lane, 2000). Managers at all levels of the organization must fulfill essential strategic functions in order for the business to succeed (Floyd & Lane, 2000). According to Floyd and Lane (2000), each sub-process has different duties for senior, middle, and first-level managers. Senior-level managers, according to Burgelman (1984), play a deciding role in corporate entrepreneurship. These managers are in charge of articulating an entrepreneurial strategic vision and fostering the development of a pro-entrepreneurship organizational structure (Burgelman R. A., 1984). Middle level managers influence and form business' corporate entrepreneurship initiatives through contacts with senior and first-level managers (Kuratko, 2010). Conforming function is demonstrated by first-level managers' adaptation of operational rules and procedures to higher-level organizational strategic goals (Covin, Kuratko, & Morris, Corporate Entrepreneurship, 2015). As a result, firms following corporate entrepreneurship strategies demonstrate a cascading, yet coordinated set of entrepreneurial activity at the senior, middle, and first management levels (Covin et al., 2015).

Throughout the 1990s, there was a substantial shift in the popular understanding of the usefulness of entrepreneurial conduct as a predictor of business performance (Covin, Dess, & Lumpkin, Entrepreneurial strategy making and firm performance: tests of contingency and configurational models, 1997). This was a period when firms were reinventing themselves, considering the most efficient use of human resources, and learning how to compete in the global market through entrepreneurial acts (Covin et al., 1997). Entrepreneurial behavior is a collection of entrepreneurial activities in which people make judgments in the face of uncertainty (McMullen & Shepherd, 2006) and firms strive to exploit entrepreneurial possibilities that their competitors have not recognized or exploited. Also, it by three key dimensions: innovativeness, risk-taking proactiveness (Covin et al., 2015). According to Chrisman & Sharma (2007) entrepreneurial behavior that occurs within the context of an existing business is associated with corporate entrepreneurship and distinct from its interaction with it's individual entrepreneurship (Covin et al., 2015). Evidence suggests that corporate entrepreneurship is particularly useful in businesses that are dealing with significant changes in industry and market structures, consumer demand, technology, and social values (Morris et al., 2008).

Public sector corporate entrepreneurship is a new field and it is defined differently by various researches, (Hisrich, Kearney, & Roche , 2007) stated that sector internal organizational factors and the external environment would affect public sector performance. However, according to Roberts (1992), stated that introduced innovation in public sector practice can be known as the corporate entrepreneurship in the public sector as well. Hughes (1998) claims, old intuitions describe public sector assets as bureaucratic monoliths. This has been validated in recent studies, even with the effect on corporate entrepreneurship performance in public institutions (Banda & Kazonga, 2018). Due to the characteristics of bureaucratic firms in public organizations limit corporate entrepreneurship application into the organization (Hisrich et al., 2007). Borins (2001) provides empirical evidence on the barriers to implementing innovation as a corporate entrepreneurial element in the public sector. However, it is possible to implement innovation in the state sector (Banda & Kazonga, 2018). According to a study conducted by Mulgan and Albury (2003) identified several key obstacles in innovation, especially prevalent in the public sector. This is being

validated with recent studies (Sangiorgi, 2015). These include delivery repressions and administrative; short term budgets and planning horizons; poor awards and incentives for innovation; a culture of risk aversion; poor active skills, risk or change management; lack of government and institutional support; financial barriers; Unwillingness to close failed programs or existing organizations and technologies (Divakara, Semasinghe, & Surangi, 2019).

Entrepreneurship has thrived in other areas, and health care is following suit in terms of growth (Guo, 2003). The health care business may learn from the successes and failures of other industries (Guo, 2003). Health care systems are very complicated and chaotic, just like other global economic organizations, which no longer use old techniques (Fayaz-Bakhsh, Fayaz-Bakhsh, Mousavi, Nazari, & Raadabad, 2014). Innovation and entrepreneurship are thus a precondition for the conservation and sustainability of organizations in the time of healthcare development and rebuilding (Fayaz-Bakhsh et al., 2014). The company's development and profitability and consumer satisfaction were the main characteristics of organizational outcomes (Fayaz-Bakhsh et al., 2014). Healthcare innovations are aimed at enhancing quality of care, administrative effectiveness, cost effectiveness, or consumer experience, and are delivered via coordinated and integrated efforts (Morgan, 2019). These innovations are especially complicated outcomes because they typically integrate both performance and operational novelties, or embodied and disembodied components with varying levels of materiality or tangibility (Barnett, Brooks, Djemil, Vasileiou, & Young, 2011). Patients' happiness is regarded as critical to the organization's existence (Ahmad, Ali, & Bharadwaj, 2013). It is intended to provide overall patient happiness and is considered innovative since patient expectations and perceived quality are used to assess satisfaction (Ahmad et al., 2013). As noted earlier, it is difficult for bureaucratic organizations especially in health sector to engage in corporate entrepreneurship (Hezlinger, 2006). However, some government health sector hospitals implemented corporate entrepreneurship into their organizations and found that all dimensions of public sector entrepreneurship positively and significantly impact health sector performance (Banda & Kazonga, 2018). According to Seborá & Theerapatvong (2010), organizations need constant innovation, risk-taking, and proactivity to stay competitive. The presence of corporate entrepreneurship among corporate managers leads to positive results (Seborá & Theerapatvong, 2010).

So, through this literature review, the researcher was able to delve into the specifics of the concepts of entrepreneurship and corporate entrepreneurship, the role of managers in corporate entrepreneurship, entrepreneurial behavior, corporate entrepreneurship in the public sector, and corporate entrepreneurship in the public health care sector.

Methodology

The case study-based qualitative research methodology was chosen for this study. The case study is based on government hospitals in Sri Lanka. To identify the appropriate samples researchers followed up lists of National Productivity award winners, newspaper articles and discussed with the key informants of primary, secondary, tertiary public healthcare institutions in Sri Lanka and finally ten institutes where corporate entrepreneurship elements practices, mainly innovation were selected. The case is the corporate entrepreneur in the institution's top management in a public hospital which has developed its' efficacy due to the corporate entrepreneurial influence of top management. Hence, after selecting suitable organizations research was discussed with the key informants of the relevant institutes to identify ideal respondents and 10 responders were identified as suitable cases. There were five hospital directors, three-unit heads, and one chief pharmacist from teaching hospitals, district general hospitals, and base hospitals among the selected cases. Almost all respondents had more than ten years of work experience. A series of in-depth semi structured interviews were conducted to gather data from respondents. Each respondent underwent two separate interviews at various times and places in order to elicit unbiased information. Consequently, data were gathered through the conduct of twenty interviews. The selected organizations were situated all over the Sri Lanka in the provinces of Sabaragamuwa, Western, North Western, Central and Northern (Figure 1). The chosen themes were developed after reviewing the transcript-based data and those were then refined through transcript cross-analysis.

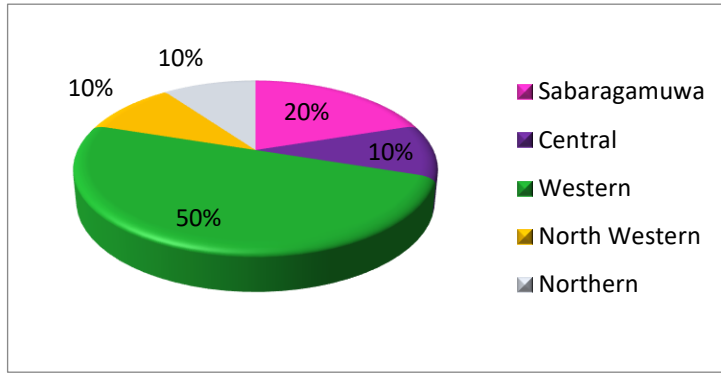


Figure 1: Percentages of case studies according to the provinces in Sri Lanka

Results and discussion

Influences:

As previously stated, there are individual, external and organizational factors that act as influences on the corporate entrepreneurship in the institute (Figure 2). A total of nine subthemes; those that operate as individual influences were identified. Six subthemes were identified in previous studies (Divakara, 2019; Mokaya, 2012): proactivity, risk taking, creator, autonomy, need for achievement, and goal orientation. Respondents performed many proactive activities such as statistical data analysis and planning, stockpiling for emergency scenarios, and so on. As corporate entrepreneurs, they have taken risks by bringing changes to established procedures or new systems for the organization's benefit. All of these people who have responded are creators. Several respondents in this research demonstrated autonomy throughout the interview process. Respondents' significant accomplishments, such as renovating an empty facility into a divisional type hospital and establishing a fully functional histology lab, demonstrated the subtheme; need for achievement. During the research, one of the important subthemes that emerged is goal orientation. All of these respondents have set their sights on the highest degree of achievement. Three new discoveries; multidisciplinary, observer, and public relationship. Multi-disciplinary; correlate with top managers' capacity to balance all administrative, financial, and clinical tasks with additional devotion to the organization. During the analysis stage, this was the second most often cited sub theme. The following statements were extracted from two respondents, which supports that being multi-disciplinary is a major trait of corporate entrepreneurs.

“I have many responsibilities within the hospital. I have to administrate all the hospital work from top to bottom. Even though I’m a director sometimes I treat patients, because before becoming a hospital director I’m a MBBS doctor and as a doctor I should treat people. And I have to look after my staff.” (Hospital director; case G).

The next new discovery is Observer. During this investigation, the research revealed that observation talent is extremely important for being a successful corporate entrepreneur. Thus, after noticing the gaps and obstacles in the firms’ majority of these respondents demonstrated their corporate entrepreneurial conduct. The following statement was extracted from a respondent, which supports the subtheme of Observer.

“During my service period I’ve seen handwriting of some doctors are terrible and couldn’t even imagine what drug was prescribed in the prescription. But experienced pharmacist can manage that problem after discussion with patient. But in this institute, we have newly appointed very young pharmacists as clinic pharmacists. So, I have observed that they are struggling with dispensing the prescribed drugs. And also, I got several complaints about dispensing errors. As a solution I introduced printed clinic books to the hospital. So now pharmacist can easily dispense drugs with zero mistakes rate and even doctors can save their time they used to write all the lengthy drug lists” (Chief Pharmacist, case J).

As the final discovery, public relationship was identified. This was the most cited and significant subtheme in the area of individual influences. It was recognized that top managers in the public health sector should be skilled in building public relationships with other parties. Most Sri Lankan public hospitals are renovated and maintained with the support of the community. As a result, in order to obtain that assistance, the director of the institute or head of the unit should maintain a positive public image with society. The snippets below exhibit how a healthy public relationship affects the innovations specifically.

“As the director of teaching hospital, I think it is very important to have good public relationship with external parties. In this organization some wards and some highly valuable instruments and equipment were donated by If you don't have good public relations skills, becoming a corporate entrepreneur in the government sector is challenging” (Hospital director, Case B).

“Our external supports agreed to offer help for our meal serving modification project. They have already presented necessary things to initiate this project” (Hospital Director, Case C).

When considering the organizational influences, there are four sub themes. The literature identified organizational support, reward and recognition, and organizational boundaries (Divakara & Surangi, 2021; Mokaya, 2012). To establish new concepts within the organization, most respondents receive organizational support from their superiors, subordinates, and colleagues. However, respondents occasionally encountered challenges as a result of organizational limits such as the tall structure of government organizations and organizational rules that limited their capabilities. Furthermore, reward and recognition have a significant influence on corporate entrepreneurial activity. Several respondents suggested that a performance-based compensation system should be implement in the government sector, which would have a direct influence on employees' commitment to the organization. In this area, researchers were able to discover a new subtheme; organizational requirement. When there is a need, employees are inspired to meet that need. This subtheme was supported by the following snippet extracted from the transcription based on the conversations had with the respondent;

“When I joined to this hospital there was no histopathology lab here. So, they had sent all their samples to other hospitals for analysis purpose. So, at that time I'm taking over the duties as consultant of histopathology there was no lab to work. So, I've established the histopathology lab here” (Unit Head- Consultant in Histopathology, case H).

Finally, external influences such as technological opportunity, community support, and consumer satisfaction have an impact on top executives' corporate entrepreneurship. The previous literature identified technological opportunity and consumer satisfaction. Presently, technology influences everything. According to the findings of this study, public hospitals are now digitizing their hospital databases with the assistance of the outside community. When considering consumer satisfaction and positive feedback, it has a significant impact on corporate entrepreneurs' motivation to exhibit creations. Also, the new theme identified by this study is community support and it was recognized as one of the major external causes that impacts individual's corporate entrepreneurial behavior within the public hospitals in Sri Lanka. Furthermore, the comment provided below validate the above subtheme.

“Business community in our area also helps to launch this project within short time period and they also agreed to provide lunch for the selected patients per day. Specially for patients with special dieting requirements.” (Hospital director, Case C)

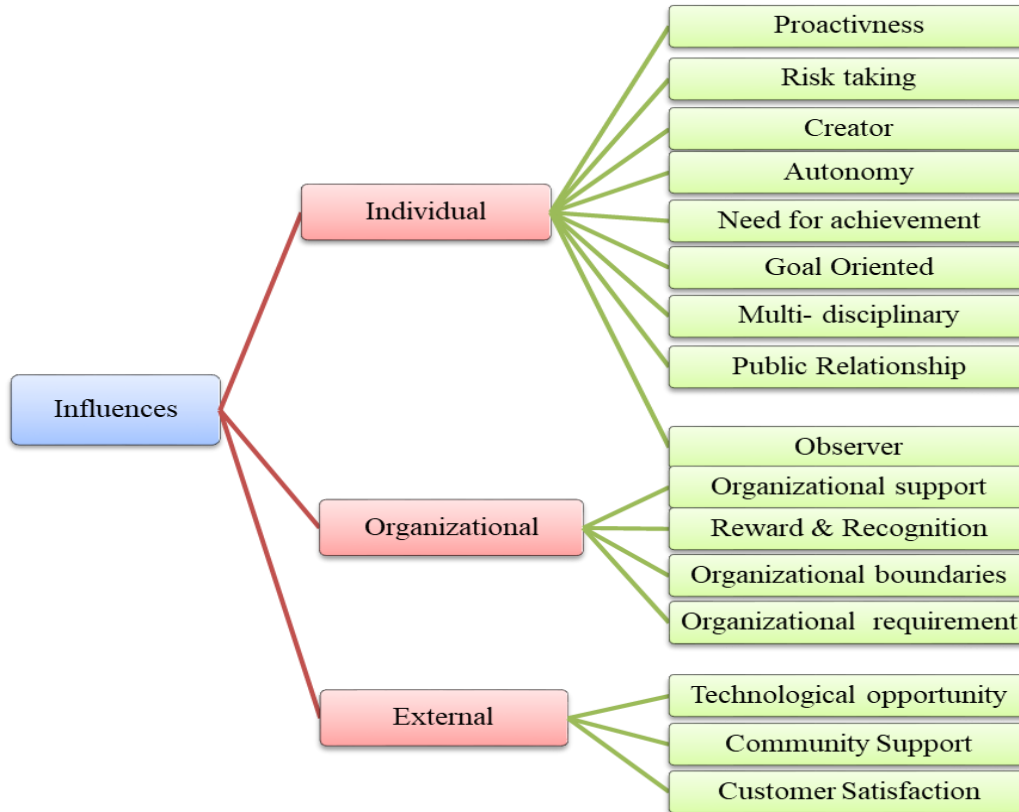


Figure 2: Influences for Corporate Entrepreneurship

Constraints:

In this study seven variables were recognized as constraints (Figure 3). Six constraints have previously been identified in the literature. The most cited constraint, was identified as layers of the organization and bureaucracy. Tall structures resulted in increased bureaucracy, which discourages corporate entrepreneurs from implementing any changes or new innovations. The majority of government institutions do not keep their rules and regulations up to date. As a result, respondents claimed that obsolete rules and regulations do not reflect today's culture and inhibit employee corporate entrepreneurship. During the research, the second most often mentioned constraint was an insufficient staff. Almost all respondents stated that a shortage of competent labor causes fatigue and stress, which has a direct impact on employee corporate entrepreneurship. Inadequate infrastructural amenities limit the service quality and demotivate staff. Another significant impediment is the financial barrier. During the interviewers' discussions, it was proposed to the government to institute a reward and recognition system based on employee performance and increase funding allocations for public hospitals. Another barrier mentioned is technological updating. Researchers noted that, while public hospitals are seeking to incorporate technology into their facilities, they are short on both manpower and equipment. During the investigation, a new constraint was discovered; a deficiency of resources. In addition to financial, human, and physical resources, there is a scarcity of information resources pertaining to knowledge, professional skills, and personal growth. Evidence from interviews corroborated this subtheme.

“Training programs for personal development will increase the responsiveness of staff member but we don't have resource person in our institute and we do not have budget allocation for hire such resource person. So, I suggest there should be at least named one professional trainer for the province and then they can organize these sessions within the organization” (Hospital director, Case F).

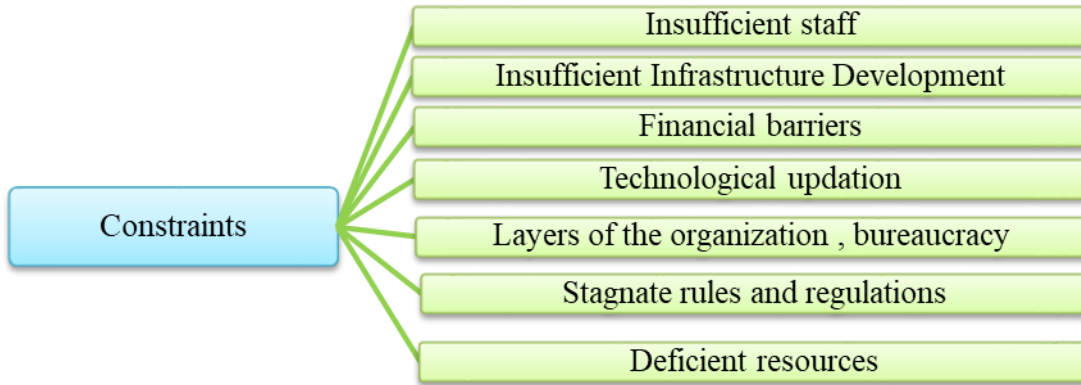


Figure 3: Constrains for corporate entrepreneurship

Performance:

The majority of respondents stated that corporate entrepreneurship improved the organization's performance. And, during a conversation with them, responders stated that after implementing some modifications or innovations efficiency, efficacy and quality of the service had increased. According to earlier research, performance was mostly measured based on efficiency. However, in this study efficacy and quality were identified as new subthemes which increase the performances (Figure 4). The excerpt collected from the transcriptions created based on the interaction with the responder show support for the efficacy and quality.

"Innovation is always essential to the growth of any company." It improves the quality and efficacy of our job. The best example is that our employees now work cheerfully after initiating the Healthy workforce project. I can tell a significant difference in their work. They are now highly responsive, and there are very little mistakes as compared to the earlier" (Hospital director, Case F).

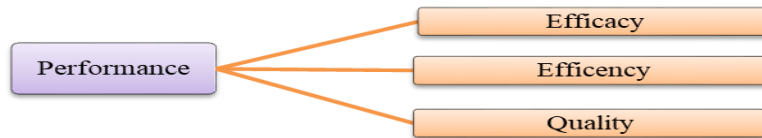


Figure 4: Importance of Corporate Entrepreneurship on the Performance

Conclusion

According to the findings of this study, there are key influences categories, and constraints that have a direct impact on top management's corporate entrepreneurship. Furthermore, some additional influences and constraints that have a significant impact on corporate entrepreneurial behavior were discovered throughout this study. As a result, these findings may aid in the establishment of a successful corporate entrepreneurial culture while reducing the impact of constraints inside the organization.

Based on the findings, the researchers established an integrated model for corporate entrepreneurship and performance in Sri Lanka's public sector health institutions (Figure 5). Influences operate as inputs in this model, triggering employee corporate entrepreneurship, organizational performance acts as outputs, and constraints act as mediators. This model may be used to public health care organizations in developing nations, such as those in the African or South Asian regions. Furthermore, the outcomes of this study will assist policymakers to make organizational decisions and adjust organizational structure.

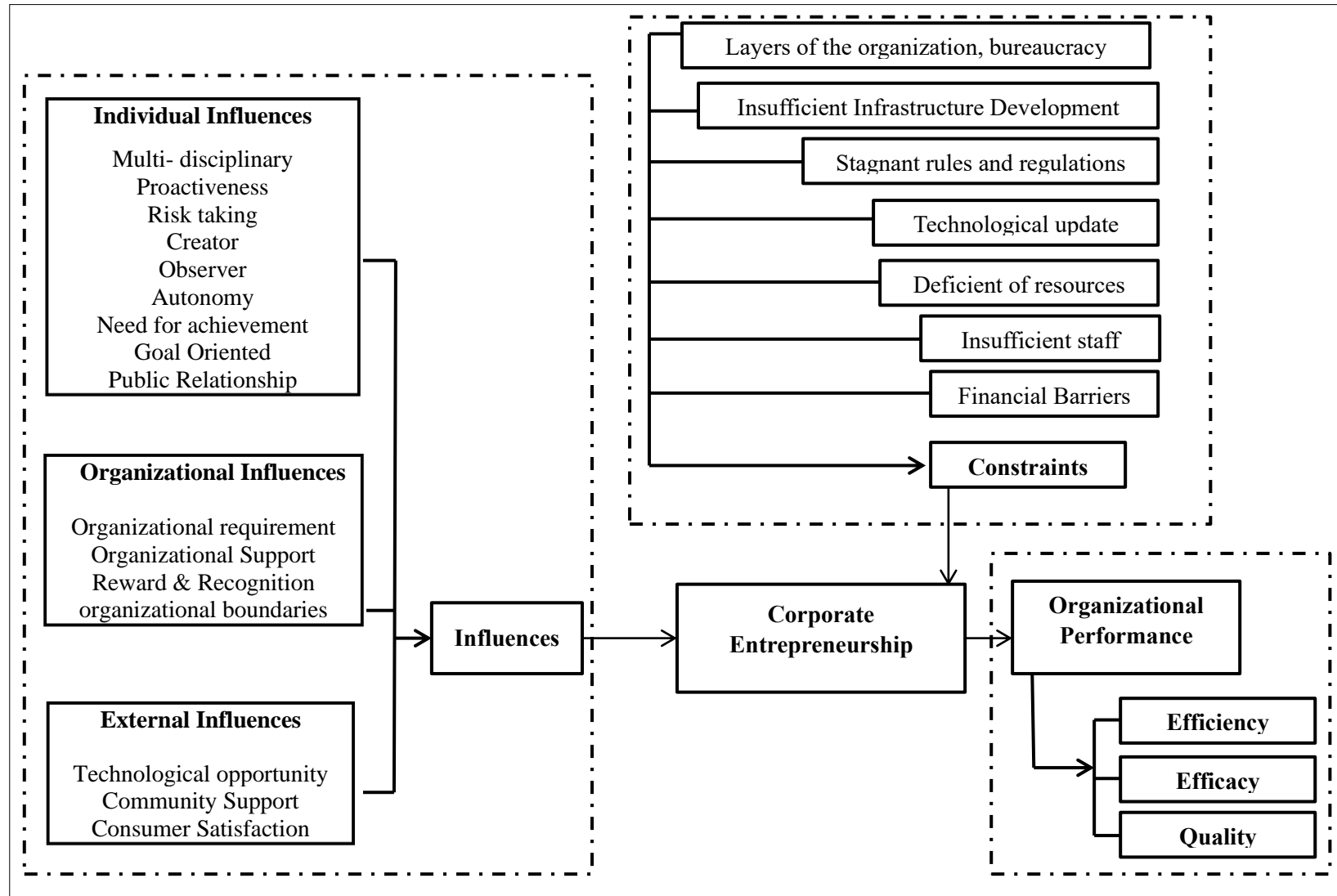


Figure 5: An Integrated Model for Corporate Entrepreneurship and Performance in The Public Sector Health Organizations in Sri Lanka

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IMPACT OF ONLINE GAMIFICATION PREFERENCES ON BRAND ENGAGEMENT AND BRAND ATTITUDES: A CASE OF MILLENNIAL CUSTOMERS IN THE SRI LANKAN MOBILE SERVICE INDUSTRY

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Abstract

This study aims to identify the impact of online gamification preferences on brand engagement and brand attitude among millennial customers of Sri Lankan mobile service providers. The study uses quantitative methodology and supports empirical studies of gamification, brand engagement and brand attitude. The target population of the study considered the millennial customers of the Sri Lankan mobile service industry who have experienced, prefer online gaming, and live in the Colombo district. Data was collected online using a predetermined questionnaire distributed to a convenience sample of 384 respondents. Data were analyzed using both descriptive and inferential analysis. The study's findings indicated a relationship between online gamification and brand engagement in terms of improving brand attitude. At the same time, the study identified brand engagement as a perfect mediating effect between online gamification and brand attitudes. This would result in gamification combined with AI technology can lead to effective customer attraction. Furthermore, developing a brand-related application for mobile users with gamification factors and 4R elements can increase customer brand experience. Therefore, the findings of this study will help Sri Lankan mobile service providers to attract and retain customers.

Key words: Gamification, Brand Engagement, Brand Attitude, Mobile Service industry.

Introduction

Online gaming has been popular among young millennials since the early 2000s, with the growth of the internet and advances in technology. Initially, simple games like Centipede, Space Invaders, Pac Man and Donkey Kong were popular, but with the introduction of massively multiplayer online games (MMOGs) such as World of Warcraft and Runescape, the popularity of online gaming skyrocketed (Cole & Griffiths, 2007; Young, 2009). These games provided a platform for players to interact with each other in real-time, building social connections and engaging in cooperative gameplay (Snodgrass, 2016). The development of technology also led to the development of mobile gaming. As a result, mobile gaming has become increasingly popular, allowing gamers to play anywhere, anytime. Today, online gaming continues to be a major pastime for young millennials, with the rise of esports and the competitive gaming scene adding to its appeal. Meanwhile, the concept of gamification has become a popular topic in online gaming as it involves game mechanics that are designed to enhance user engagement.

The rise of online gamification has revolutionized the way businesses engage with their customers. The concept of gamification, which involves incorporating game mechanics into non-game contexts, has been found to be an effective tool in increasing customer engagement and loyalty (Yang et al., 2017). Moreover, the combination of marketing concepts and the technology acceptance module (TAM) creates a relationship between brand engagement, brand attitude and gamification. Therefore, gamification has become one of the trending marketing techniques used by world organizations to adopt game techniques and game styles for customer engagement and affect customer attitudes toward the brands. When consumers engage with a brand, they develop a relationship with it, and their attitude towards the brand can be influenced by their level of engagement. For instance, if a consumer frequently engages with a brand's social media content, they may develop a positive attitude towards the brand and become more loyal to it. On the other hand, if a consumer has a negative experience with a brand, it can lead to disengagement and a negative attitude towards the brand. Therefore, marketing strategies should focus on fostering positive brand engagement to improve brand attitude and strengthen the relationship between consumers and the brand (Kotler, 2004).

In recent years, the Sri Lankan mobile service industry has seen a significant increase of 149.9% of the total population owning mobile phone connections (Kemp, 2020) in the use of different traditional and digital marketing strategies to attract and retain customers' intention of the brand. While the Sri Lankan mobile telecommunication market has evolved significantly in recent years, with the expansion of existing operators. As a result, the market has become more competitive, and companies need to use marketing tools to attract and retain customers. With a mature market, mobile service providers are essential to differentiate themselves from competitors by offering unique value propositions and providing excellent customer service. Marketing tools such as social media advertising, loyalty programs, and targeted promotions are crucial to attracting and retaining customers. With the right marketing tools telecommunication providers in Sri Lanka can remain competitive in a rapidly evolving market and attract and retain customers. However, little is known about the impact of online gamification on brand engagement and brand attitudes among millennial customers in this industry.

Millennials are a crucial demographic for businesses in Sri Lanka, as they represent 31% of the population (Lanka, 2020) (Telecommunications Regulatory Commission of Sri Lanka, 2020) and are known for their tech-savvy nature (Economic and Social Statistics of Sri Lanka, 2019). They comfortably use a wide range of digital devices and platforms and tend to rely heavily on technology to communicate, socialize, work, and entertain themselves. Additionally, the convenience and accessibility of modern technology have also contributed to this generation's desire for instant gratification. The behaviour of millennials with technology reflects their desire to remain connected and informed in a constantly evolving digital environment (Zickuhr, 2011). Therefore, mobile service providers in Sri Lanka need to understand the preferences of millennial customers towards online gamification and its impact on brand engagement and brand attitudes. This research aims to fill this gap in the literature by examining the relationship between online gamification preferences, brand engagement, and brand attitudes among millennial customers in the Sri Lankan mobile service.

In addition, previous research found that the intention to engage positively impacts brand attitude in gamification marketing. However, the mediating effect of brand engagement in this relationship has not been extensively explored (Yang et al., 2017; Xi & Hamari, 2019). Therefore, this study is to investigate the mediating role of brand engagement on the relationship between online gamification preferences and brand attitude and to determine the extent to which brand engagement influences the effectiveness of gamification in promoting brand attitude among millennial customers in the Sri Lankan mobile service industry.

This study is justified as it aims to investigate the impact of online gamification on brand engagement and brand attitudes among millennial customers in the Sri Lankan mobile service industry, which has not been extensively explored. The study will also examine the mediating role of brand engagement in the relationship between online gamification preferences and brand attitude, filling a gap in the literature. This is important for mobile service providers in Sri Lanka to remain competitive and attract and retain customers in a rapidly evolving market. The remaining paper has been organized as follows. First, it presents the literature relevant to the theories and relationships among the variables, then presents the methodology of the study. Next, it shows the results of the data analysis followed by a discussion. Finally, it shows the conclusion, implications, limitations, and future research.

Literature Review

In addition to other adoption models, the Technology Acceptance Model (TAM) has been used for several studies in mobile service adoption. It focuses primarily on explaining the intention to use a specific technology or service, which is widely applicable to user acceptance and usage (Abdul Razak Munir, 2013). Furthermore, the model explains two important factors perceived usefulness and perceived ease of use influence when users decide on new technology (Davis, 1989).

Therefore, the application of TAM for new technology or systems for the gamification process as marketing perception may usefully attract customer attitude. For example, people's attitude toward advertising has a significant influence on changing their brand attitude (Sallam & Algammash, 2016). And customer satisfaction positively and significantly has a relationship with brand attitude (Ghorban, 2012). Social influence on customer attitudes toward a new system or technology influences customer brand attitudes in the framework of gamified marketing (Yang et al., 2017). Compared with online shopping with gaming, gamified marketing is more enjoyable and experience-oriented. Therefore, user attitude towards the new system positive effect and that is possible to affect the brand embedded in

the system. Yang et al (2017) found that perceived enjoyment is also another important factor in influencing brand attitude from a gamified marketing perspective. Therefore, the first hypothesize of the study is,

H1. Online gamification preference positively influences customer brand attitudes.

According to the marketing perspective non-transactional, customer engagement customer provides different types of direct and indirect contributions to the firm or organization (Jaakkola & Alexander, 2014). Therefore, facilitating an effective customer engagement platform positively affects customer engagement (Ramaswamy, 2009). The use of game-based approaches or gamification platforms has become a trending customer engagement point of service marketing (Conaway & Garay, 2014). The concept of gamification became a trending tool for influencing customer behaviour under the use of new technologies in any industry (Deterding et al., 2011) The combination of the unified theory of acceptance and use of technology (UTAUT) (Venkatesh et al., 2012) and gamification impact provide clear guidance on the way to the adoption of new technology in a successful way. Through that, it has identified the gamified customer experience environment model to explain the main areas of gaming, like engagement mechanism, engagement behaviour, engagement emotions and engagement outcomes. Therefore, the second hypothesis of the study is,

H2. Online gamification preference positively influences customers' intention to engage with brands.

Previous research has suggested that there exists a connection between attitude and behavioral intention. Some empirical studies identify that corporate reputation significantly influences the brand attitude and purchase intentions of users. Kotler (2004) defines attitude as favourable or unfavourable evaluation, intention and attitudes toward a certain idea or object. Thereby identifying a close connection between user behaviour intention and brand attitude (Kotler et al., 2019). Therefore, the third hypothesis of the study is,

H3. Customer's intention to engage in brands positively influences customer brand attitudes.

Online gamification is expected to increase brand engagement, which, in turn, will lead to a more positive attitude towards brands among individuals who prefer online gamification. At the same time, the growing popularity of online gamification as a marketing strategy also highlights the important role engagement plays in influencing consumers' brand attitudes. TAM and TRA explain that the adoption of technology directly or indirectly influences behaviour intention, attitude, perceived usefulness, and perceived ease of technology. Further, examines from a marketing perspective how gamification mechanisms are used for enhancing customer brand attitudes and engagement by an apply combination of the TAM model and other identified game motivation factors (Davis, 1989; Hsu & Lu, 2007).

Past research results indicate that perceived usefulness and perceived enjoyment positively affect brand engagement, but perceived ease of use and perceived social influence have no significant impact on brand engagement. However, perceived usefulness and perceived social influence have a positive impact on brand attitude. However, perceived ease of use does not have a significant influence on brand attitude. Based on the above combination of factors has a positive effect on the intention of engagement towards brand attitude in the context of gamification marketing (Yang et al., 2017). In another way, brand attitude positively influences purchase intention behaviour among customers (Ghorban, 2012).

However, this study finds the relationship intention to engage brand dimension (Hollebeek et al., 2014) as a mediator between online gamification features (Yee et al., 2012) and brand attitude. Therefore, the fourth hypothesis of the study is,

H4. Brand Engagement in brands mediates the relationship between Online Gamification Preference and brand attitudes.

Conceptual Framework and Research Methodology

Conceptual Framework

Thus, the conceptual model presented below has been developed based on the proposed hypotheses.

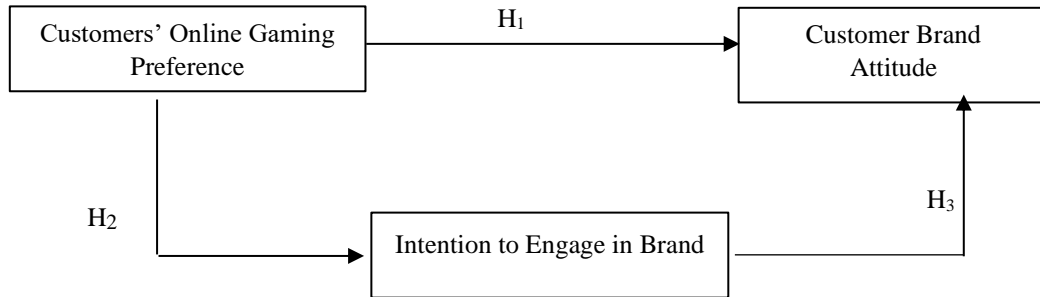


Figure 1: Proposed Research Model

Figure 1 is the conceptual model developed based on prior research into gamification, brand engagement, and brand attitudes. Through the review, the independent variable of customer brand attitude, the dependent variable of customers' online gamification preference and intention to engage in the brand, and mediating variable of intention to engage in the brand were identified and used to create hypotheses that address theoretical gaps. Yang et al. (2017) identified customers' online gaming preferences as the independent variable that impacts millennials' brand attitudes as the dependent variable. The intention to engage with the brand is a mediating variable that mediates the relationship between online gamification preferences and brand attitude dimensions, as suggested by Hollebeek et al. (2014) and Yee et al. (2012).

Operationalization

All the indicators of the variables are measured using the Five-Points Likert tool. The dependent variable of online gamification preference was measured through three indicators of gamification features, gamification mechanism and motivation factor (Yee et al., 2012; Harwood & Garry, 2015; Denny, 2018). The dependent variable of intention to brand engagement was measured through four indicators of emotional engagement, cognitive engagement, social engagement, and engagement behavior (Hollebeek et al., 2014; Harwood & Garry, 2015). The independent variable of brand attitude was measured through two indicators of attitude components and internal and external attitudes (Solomon et al., 2019; Banyte et al., 2007).

Methodology

The study's methodology was aligned with its research objectives and proposed conceptual framework based on a positive philosophy. As a result, empirical testing of the conceptual model was conducted using the following methods.

The study adopts a quantitative approach and is designed as a self-determined and semi-structured questionnaire for millennial customers of Sri Lankan mobile service providers. The population of the study is millennial customers of the mobile service provider in Sri Lanka based in the western province, Colombo district. The total Sri Lankan population was 20.4 million in 2012, and 11.2% of the population is in the Colombo district. 31% of the population represents millennials who are aged between 18 and 34. The target population of the study approximately is about 1.1 million mobile subscribers in March 2020 (Telecommunications Regulatory Commission of Sri Lanka, 2020). In Sri Lanka, there are four main mobile service providers, and their main customer base is located within the Colombo district. Therefore, the study sample has selected 400 (Krejcie & Morgan, 1970) mobile subscribers who have experienced or prefer online gaming. The sample base is selected by a convenient method representing each mobile operator.

Data collection was carried out via an online survey questionnaire distributed via email and social media platforms to ensure convenient accessibility. Respondents were asked to rate their answers on a Likert scale ranging

from one to five (ranging from "strongly disagreed" to "strongly agreed"), except for demographic profile data. The survey received 219 responses, resulting in a 54% response rate compared to the selected sample size.

The collected data were analyzed using both descriptive statistics and inferential statistics to measure the variables and test hypotheses. Descriptive statistics were used to determine the central position and spread of the collected data using various measures. Inferential analysis was conducted through a multiple linear regression procedure using SPSS 23 (R) software to test significant relationships between the variables.

Data Analysis and Discussion

In this section, the study's findings are analyzed and discussed.

Characteristics of Sample

The respondents selected for the study were individuals who lived in the Colombo district, aged between 18 to 48 years, with experience and a preference for online gaming, regardless of their gender or educational level. The sample included all mobile service providers in Sri Lanka.

The respondents' age range is divided into four categories: 20 to 31-40 years old, with the majority (62.96%) falling between 21 to 30 years of age. The highest percentage (80.06%) of the sample surveyed holds a bachelor's, postgraduate, or master's degree. In terms of occupation, 51.85% of respondents work in the private sector, while the remaining are employed in government, self-employed or unemployed.

Out of the four main mobile service providers, 40.26% of respondents use a single mobile service provider. Additionally, 50.46% of the total respondents have been using their mobile connection for more than five years. Furthermore, 57.9% of the respondents are open to exploring alternative mobile service providers. Among the respondents, 59.3% expressed satisfaction with their current service providers, whereas 16.7% were mostly satisfied. Additionally, 49.1% of respondents search for new products and updates of mobile services, while 57.6% are interested in using value-added services (VAS) provided by their mobile service provider.

Reliability and Validity

According to Chan & Idris (2017), the reliability and validity of data can be assessed using Cronbach's Alpha and factor analysis. Table 1 shows Cronbach's Alpha tests whether all variable values are above 0.6, indicating that the data collected from the questionnaire is reliable. The factor analysis of principal component factor analysis and exact new components with direct oblimin rotation that measures the validity of the questioner, and the items of the variables identified as a valid factor that is greater than 0.5-factor value. Therefore, all the items are considered valid for further analysis.

Table 1: Reliability Statistics

Variable	Cronbach's Alpha	Number of Items
Online Gamification Preference	0.971	22
Gamification Features	0.941	12
Gamification Mechanism	0.945	6
Motivation Factor	0.875	4
Intention to Brand Engagement	0.984	23
Emotional Engagement	0.942	6
Cognitive Engagement	0.910	5
Social Engagement	0.945	4
Engagement Behavior	0.900	4
Engagement Outcome	0.942	4
Brand Attitude	0.959	9
Attitude Component	0.945	6
Internal and External Attitude	0.902	3

Descriptive Statistical Analysis

According to the established Likert scale, Table 2 displays the descriptive statistics of the independent variables and the range of responses for the dependent variable.

Table 2: Summary of the statistics of variables

Variables	Mean	Std. Deviation
Gamification Features	3.6285	0.79183
Gamification Mechanism	3.7623	0.83888
Motivation Factors	3.6690	0.84277
Online Gamification Preference	3.6866	0.78592
Emotional Engagement	3.3187	1.03275
Cognitive Engagement	3.3509	0.92932
Social Engagement	3.3111	1.09233
Engagement Behaviors	3.4039	0.99987
Engagement Outcomes	3.3750	1.06749
Intention to Brand Engagement	3.3519	0.96551
Brand Attitude	3.2049	0.97212

The dependent variable of online gamification preference sub-variables of gamification features shows a mean of 3.63 and the lowest standard deviation of 0.792 (4.42-2.84 on the Likert scale). Gamification Mechanism has the highest mean value of 3.76 and 0.84 of standard deviation (4.60-2.92 on the Likert scale). The motivation Factor of sub variable mean value indicates 3.67 and 0.84 of standard deviation 84 (4.51-2.83 of scale).

The sub-variable of intention to brand engagement, emotional engagement has a 3.32 mean value and 1.03 standard deviation (4.35-2.29 on the Likert scale). It denotes data are distributed over a relatively large scale. The cognitive engagement has a mean value of 3.35 and a 0.93 standard deviation (4.28-2.42 on the Likert scale). The social engagement variable has a mean value of 3.31 and a 1.09 standard deviation (4.40-2.22 of the Likert scale). Engagement behaviour has a 3.40 mean and 0.99 standard deviations (4.40-2.40 on the Likert scale). The engagement outcome variable has a 3.37 mean value and the second-largest standard deviation value of 1.067 (4.44-2.31 on the Likert scale).

According to the descriptive statistics, the online gamification preference dependent variable is within the Neither Disagree nor Agree level of the Likert scale. That means gamification features, gamification mechanism and motivation factors are at an acceptable level. Furthermost of the customers prefer the online gaming experience. However, the dependent variable of the intention to brand engagement variable is within disagreement to agree on the scale. That can further derive emotional engagement, cognitive engagement, social engagement, engagement behaviour and engagement outcomes are not at an acceptable level. However, customers like online gaming, but engagement is low due to customers not being ready to allocate their time to play games.

The lowest mean value of the independent variable of brand attitude is 3.20 and the standard deviation is 0.97, this implies that most of the responses are within the 4.18 to 2.23 Likert scale. Then the independent variable is also within the agree to disagree range.

Correlation Analysis

Table 3 displays the relationship between the independent and dependent variables in the study, measured through bivariate correlation using two-tailed statistical significance at a p-value of less than 0.01, indicating a high level of significance.

Table 3: Correlation Matrix

Variable	Person Correlation										
	G P	GPF_T	GPM_T	GPA_T	BE	BEE_T	BEC _T	BES _T	BEB _T	BE O_T	BA
Online Gamification Preference (GP)		0.953	0.959	0.947	0.842	0.785	0.837	0.75 8	0.80 4	0.95 3	0.7 92
Gamification Features (GPF_T)			0.884	0.847	0.796	0.745	0.789	0.72 0	0.75 9	0.74 3	0.7 50
Gamification Mechanism (GPM_T)				0.858	0.775	0.702	0.766	0.70 9	0.75 5	0.72 7	0.7 15
Motivation Factors (GPA_T)					0.837	0.796	0.838	0.73 8	0.78 5	0.79 4	0.8 01
Intention to Brand Engagement (BE)						0.947	0.942	0.92 1	0.94 9	0.95 4	0.9 19
Emotional Engagement (BEE_T)							0.902	0.81 6	0.86 0	0.88 8	0.8 86
Cognitive Engagement (BEC_T)								0.82 5	0.85 3	0.87 3	0.8 68
Social Engagement (BES_T)									0.85 9	0.83 0	0.8 23
Engagement Behavior (BEB_T)										0.90 4	0.8 58
Engagement Outcome (BEO_T)											0.8 99
Brand Attitude (BA)											

The independent variables in the study are correlated with the dependent variable at a significant level of 0.01. The strongest correlation is observed between online gamification preference and gamification mechanisms.

Simple Regression Analysis and Hypothesis Testing

The relationship between online gamification preference and brand attitude

Table 4 below shows an R-value of 0.792 which denotes the relationship between the independent variable of online gamification preference and the dependent variable of brand attitude. R² explained a variance of 0.628 which means 62.8% of the variance in brand attitude can be explained by online gamification. Furthermore, Table 5 shows, the ANOVA model was significant at a level of 0.000 which rejects the null hypothesis and accepts the alternative hypothesis of online gamification preference positively influencing customer brand attitude. Moreover, as per the coefficient Table 6 the positive correlation (beta value of 0.792) suggests that increasing online gamification preference is likely to increase brand attitude. As a result, hypothesis 1 Online gamification preference has a positive influence on customer brand attitudes.

Table 4: Model summary of the relationship between Online Gamification Preference and Brand Attitude

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.792 ^a	0.628	0.626	0.59442

Table 5: ANOVA for relationship between Online Gamification Preference and Brand Attitude

Model	Sum Squares	Df	Mean Squares	F	Sig
Regression	127.566	1	127.566	361.036	.000 ^b
Residual	75.613	214	0.353		
Total	203.179	215			

Table 6: Coefficients for the relationship between Online Gamification Preference and Brand Attitude

Model	Unstandardized Coefficients		Standardized Coefficients	‘t	Sig	Collinearity Statistics	VIF
	B	Std. Error	Beta			Tolerance	
(Constant)	-0.408	0.194		-2.100	0.037		
GP	0.980	0.052	0.792	19.001	0.000	1.000	1.000

a Dependent Variable: BA

The relationship between online gamification preference and brand engagement

Table 7 below shows an R-value of 0.842, indicating the relationship between online gamification preference as the independent variable and intention to brand engagement as the dependent variable. R² explains the 0.709 variances meaning that 71% of the variance in intention to brand engagement can be explained by online gamification. ANOVA Table 8 shows the model overall at a significant level of 0.000 which means rejecting the null hypothesis and accepting the alternative hypothesis of online gamification preference positively influencing the intention of brand engagement. Table 9 of coefficients shows a beta value of 0.842 which indicates the positive correlation between online gamification preference and intention to brand engagement. Therefore, increasing online gamification preference is necessary to increase the percentage of brand engagement. This indicates that hypothesis 2, online gamification preference has positive influences on customers’ intention to engage in brands.

Table 7: Model Summary of relationship between Online Gamification Preference and Intention to Brand Engagement

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.842 ^a	0.709	0.708	0.52188

a. Predictors: (Constant), GP

Table 8: ANOVA for the relationship between Online Gamification Preference and Intention to Brand Engagement

Model	Sum Squares	Df	Mean Squares	F	Sig
Regression	142.139	1	142.139	521.876	.000 ^b
Residual	58.285	214	0.272		
Total	200.424	215			

a Dependent Variable: BE

b Predictors: (Constant), GP

Table 9: Coefficients for the relationship between Online Gamification Preference and Brand Engagement

Model	Unstandardized Coefficients		Standardized Coefficients	‘t	Sig	Collinearity Statistics	VIF
	B	Std. Error	Beta			Tolerance	
(Constant)	-0.462	0.171		-2.707	0.007		
GP	1.035	0.045	0.842	22.845	0.000	1.000	1.000

a Dependent Variable: BE

The relationship between intention to brand engagement and brand attitude.

The relationship between the independent variable of intention to brand engagement and the dependent variable of brand attitude is indicated by an R-value of 0.919 which is strong, as shown in Table 10. In addition, R² explains the 0.845 variance which means 84.5% of the variance is affecting brand attitude by intention to brand engagement. The ANOVA Table 11 shows an overall significant level of 0.000 which rejects the null hypothesis and accepts the alternative hypothesis of intention to brand engagement positively influences customer brand attitude. Table 12 of coefficients show a beta value of 0.919 and it denotes a positive relationship between intention to brand engagement and brand attitude. This indicates it is necessary to increase intention to brand engagement to increase brand attitude percentage. As a result, hypothesis 3, customers’ intention to engage in brands has a positive influence on customer brand attitudes.

Table 10: Model Summary for the relationship between Intention to Brand Engagement and Brand Attitude

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.919 ^a	0.845	0.844	0.38340

a. Predictors: (Constant), BE

Table 11: ANOVA for relationship between Intention to Brand Engagement and Brand Attitude

Model	Sum Squares	Df	Mean Squares	F	Sig
Regression	171.722	1	171.722	1168.216	.000 ^b
Residual	31.457	214	0.147		
Total	203.179	215			

a. Dependent Variable: BA

b. Predictors: (Constant), BE

Table 12: Coefficients for the relationship between Brand Engagement and Brand Attitude

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig	Collinearity Statistics	VIF
	B	Std. Error	Beta			Tolerance	
(Constant)	0.102	0.094		1.082	0.28		
BE	0.926	0.027	0.919	34.179	0.000	1.000	1.000

a. Dependent Variable: BA

Multiple Regression Analysis and Hypothesis Testing

Mediating effect of intention to brand engagement between online gamification preference and brand attitude.

Table 13 presents a summary of the regression model between the two independent variables of online gamification preference and intention to brand engagement, and the dependent variable of brand attitude. The R-value of 0.92 indicates a strong correlation between the two types of variables, and the adjusted R² explains that 84.5% of the variance in brand attitude is affected by intention to brand engagement and online gamification preference. The ANOVA model in Table 14 is significant at a level of 0.000, which rejects the null hypothesis and accepts the alternative hypothesis of brand engagement in mediating the relationship between online gamification preference and brand attitudes. Table 15 indicates that the two independent variables of online gamification preference and intention to brand engagement have a positive relationship with the dependent variable of brand attitude, with the highest and strongest dependent variable having a beta value of 0.867. The study of multiple regression models has identified that 86.7% of the variance has a significant relationship with two independent variables. The VIF value indicates that both independent variables are 3.439, which is less than 5, indicating that there is no multicollinearity in brand attitude with online gamification preference and brand engagement. Table 15 shows a beta value of 0.062, indicating a positive relationship between online gamification preference and intention to brand engagement. However, the significant value of 0.211 indicates that the coefficient is insignificant. There appears to be a mediating level of effect of intention to brand engagement between online gamification preference and brand attitude, but it is not statistically significant. While the intention to brand engagement positively affects online gamification preference based on hypothesis 02

with a higher beta value (0.842), which is significant, brand attitude also positively affects online gamification preference (hypothesis 01). Additionally, the impact of gamification preference (as indicated by the Beta value of 0.792 in Table 6) on brand attitude has now reduced to 0.062 and has been insignificant in Table 15 multiple regression model when both gamification preference and brand engagement are together predicting brand attitude. This explains the condition of perfect mediation of brand engagement in the model in predicting brand attitude. According to Baron and Kenny (1986), this is perfect mediation, and hence, brand engagement has a mediating effect that develops a relationship between online gamification preference and brand attitude.

Table 13: Model Summary of the mediating effect of intention to brand engagement between online gamification preference and brand attitude

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.920 ^a	0.846	0.845	0.38289

a. Predictors: (Constant), BE, GP

Table 14: ANOVA for the mediating effect of intention to brand engagement between online gamification preference and brand attitude

Model		Sum Squares	Df	Mean Squares	F	Sig
1	Regression	171.952	2	85.976	586.458	0.000 ^b
	Residual	31.226	213	0.147		
	Total	203.179	215			

a Dependent Variable: BA

b Predictors: (Constant), BE, GP

Table 15: Coefficient for the mediating effect of intention to brand engagement between online gamification preference and brand attitude

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig	Collinearity Statistics	VIF
	B	Std. Error	Beta				
Constant)	-0.005	0.127		-0.040	0.968		
GP	0.077	0.062	0.062	1.254	0.211	0.291	3.439
BE	0.873	0.050	0.867	17.400	0.000	0.291	3.439

a. Dependent Variable: BA

Discussion

As per the findings, there is a certain level of online gamification preferences in the mobile service industry. This indicates that millennial customers in this industry consider the satisfactory level of gamification features and motivation factors when taking online gaming. Furthermore, operators in this industry have a lower level of brand engagement in online gaming. However, it indicates that customers like online gaming, but brand engagement is at a low level due to customers not being ready to allocate their time to play games (Mathieson, 1991). Hence, the first objective of the present level of millennial customers for online gaming was satisfied.

The findings show a strong positive linear relationship and a significant correlation. Therefore, it is necessary to enhance online gaming preferences to improve brand attitudes. This is supported by Yang, Youstra, and Yogesh (2017), who found a significant relationship between gamified marketing and brand attitude through the Technology Acceptance Model's dimensions of perceived usefulness, perceived ease of use, and perceived enjoyment. This study further elaborates on the concept of gamification preference, encompassing gamification features, mechanisms, and motivation factors.

While investigating the impact of online gaming preferences on customer engagement with brands in the Sri Lankan mobile service industry. Results show a strong and significant positive relationship, leading to the conclusion that increasing online gaming preferences can enhance brand engagement. Gamification has been proven to be an effective tool for brand management by Xi and Hamari (2019) and has a positive relationship with emotional, cognitive, and social engagements, except for immersion. The positive relationship between perceived usefulness and perceived enjoyment in brand engagement has been established because gamification is a technologically adaptable concept (Yang et al., 2017). However, Harwood and Garry (2015) found that gamified customer engagement remains unrealized in many environments. The brand engagement in this study is divided into five sub-factors, including social, cognitive, and emotional engagements (Hollebeek et al., 2014) engagement behavior and outcomes (Harwood & Garry, 2015).

To explore the relationship between customer brand engagement and their brand attitudes in the Sri Lankan mobile service Industry. The results indicate a strong and positive linear relationship between the variables, and therefore, increasing brand engagement intention is necessary to improve brand attitudes. Yang, Yousra and Yogesh (2017) have demonstrated that there is a positive relationship between brand engagement intention and brand attitude in the context of social factors.

To explain the role of customer intention to engage in brands on the relationship between online gaming preference and brand attitudes in the Sri Lankan mobile service industry. A perfect mediator effect of brand engagement on the relationship between online gamification and brand attitude. Therefore, it is necessary to increase intention to brand engagement using online gamification techniques. The study by Yang, Yousra and Yogesh (2017) supports the findings that the brand engagement factor of perceived enjoyment significantly influences brand attitude in the gamification process. Same as Hamari and Koivisto (2013) indicated that the brand engagement factor of social factors influences to contribute brand attitude and intention to engage toward gamification services. The study also proves that there is a perfect mediator effect based on Baron & Kenny's (1986) three mediator testing conditions.

Conclusion, Implication, Limitation and Future Research

Conclusion

The mobile telecommunication industry has shown significant development during the past two decades. With the highly saturated market, there is high competition among mobile service providers. Since all the providers provide the same service, they have introduced different and innovative services. To retain their customers, they practice different brand management strategies. With the technological advancements of the online mobile gaming industry, and by using the theoretical knowledge of marketing concepts, online gamification concepts emerged. It improves the marketing aspect of customer behaviours with non-gaming applications.

Research findings indicate that the users have a favourable response to current services and mediate motivation to adopt or search for innovative services or value-added services of mobile service providers. This research proposed that the adoption of online gamification impacts brand engagement and brand attitude to retain existing mobile users and attract new subscribers. Thereby the customer brand attitude may increase with the use of online gamification preference and brand engagement. Based on the research study, regression results derive that brand attitude has more impact on brand engagement than online gamification preference. Brand engagement is identified as a perfect mediating variable between brand attitude and online gamification preference. Therefore, brand engagement has been identified as the key factor to increase brand attitude. As a result, mobile service providers should focus on the brand engagement element when utilizing gamification marketing concepts. The elements can be defined as emotional engagement, social engagement, cognitive engagement, engagement behaviour and engagement outcome. The mobile operator should improve the brand attitude of the customer by adopting attractive non-gaming marketing concepts focused more on brand engagement activities.

The research can conclude that the Sri Lankan mobile service industry lacks the use of online gamification in the form of a marketing perspective. So, the industry players have opportunities to use this trending technique to interact with their customers. If the industry players plan creative marketing campaigns for brand engagement and brand attitude, they can develop an online non-gaming context platform. It will be an effective and efficient technique to capture potential customers and retain customers with high satisfaction.

Implications

The study implications have been divided into two categories managerial implication and theoretical implication. The managerial implications describe the industrial-specific practices to improve the research objectives. The theoretical implications provide more theoretical practices to improve the study objectives.

Managerial implications

The proposed study suggests that gamification can be a powerful tool for building customer relationships in a virtual environment. However, the study finds that, currently, mobile service providers provide perceived customer service. It has been proved that there is a relationship between service quality and perceived trust in technology (Almarashdeh, 2018). Therefore, mobile service providers need to improve service quality to retain customers. Before introducing gamification to customers, employees should be educated about it. The study focuses on millennials as early adopters of new technology and suggests using gamification techniques in promotion campaigns for this demographic. Companies should consider their specific branding when creating gamification techniques and use technology like the Hachi projector and touch screen to attract customers in public places. Combining gamification, virtual reality, and augmented reality technologies can be effective in attracting millennial customers.

Theoretical implications

Since brand engagement is a perfect mediator of brand attitude and online gamification, the research further investigates brand engagement sub-factors of emotional engagement, cognitive engagement, social engagement, engagement behaviour and engagement outcomes indicators. The researchers can initiate other brand management strategies like brand equity, brand awareness, brand recognition, brand loyalty, brand image and brand identity. Gamification applicability and its effective results in improving customer experience and customer satisfaction (Aparicio, et al., 2012). Therefore, developing a brand-related application for mobile users will be able to increase customer brand experience. It can use gamification factors (fun, rewards, competition, and storytelling) and 4R (reflex, reality, real place, and real communication) (Lee & Jin, 2019). Therefore, researchers can investigate how it can use new devices and applications to combine gamification and customer brand engagement. Gamification can be used as a catalyst in marketing. The researcher identifies a potential impact of gamification on customer satisfaction, self-determination, social exchange, frequency of participation and other rewards. The researcher also identifies the interest in gamification adoption, brand engagement and brand attitude among the old generation and different genders. However, the researcher further investigates game techniques for traditional marketing for the Sri Lankan mobile service industry. Since there are several success stories about gamification adoption, the researcher can investigate the failure stories and identify the reason for failure as the lesson learned.

Under social implications, the demographic factor of gender becomes important to consider in technology adoption. Gender is an important demographic factor to consider in technology adoption, as women are motivated to use online platforms, and a strong social network among women is important for gamification marketing (Venkatesh & Morris, 2000). The target audience of millennials who are willing to adopt the technology. Therefore, the use of gamification techniques could be used to improve their soft skills like self-determination, self-motivation, critical thinking, problem-solving, etc. (Denny, 2018). Although adoption of online gamification features and techniques is useful to increase engagement for educational purposes and improve computer literacy (Browne et al., 2014).

Limitations and Future Research Areas

The research has some limitations. First, the biases of the responses are high due to the research sample method using a convenient sampling method. Second, the findings of the study should be interpreted within the developed conceptual model, but there are other brand environments and social impacts. The third limitation is the sample size of the study. And increasing the sample size of the study could generate a more feasible result. Due to time, resources and capacity limitations, the study was only conducted for the Colombo district and age limited to Millennials (aged 18 to 38 years). So, the study can be open to the world and all ages. This study mainly focuses on the mobile service-providing industry, but this can be conducted for other industries in Sri Lanka as well.

Gamification can be identified as a new area for further research study. Based on the research findings, brand engagement has a perfect mediating relationship with online gamification and brand attitude. The research further focuses on sub-factors of emotional engagement, cognitive engagement, social engagement, engagement behaviour and engagement outcomes indicators. Based on that, the existing model could be elaborated. In addition, the application of gamification for different marketing perspectives can be used to improve customer attitudes and behaviours.

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THE IMPACT OF LEADERSHIP STYLE ON ORGANIZATIONAL EFFECTIVENESS OF SELECTED DOMESTIC COMMERCIAL BANKING INSTITUTION IN SRI LANKA (WITH SPECIAL REFERENCE TO THE WESTERN PROVINCE)

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Abstract

The study was mainly aimed to find out the impact of leadership style on organizational effectiveness of selected commercial banking institution in the domestic private sector of Sri Lanka. In this study, the organizational effectiveness was analyzed based on competing values model and the leadership style was analyzed based on transformational and transactional leadership model. A structured questionnaire under the survey method was used to collect data. Data was collected from subordinates from the branches of the selected commercial banking institution in the domestic private sector. To represent subordinates from each branch, stratified random sampling method was used. In order to analyze the data, for the purpose of finding answers to the research questions, descriptive statistics and appropriate inferential statistical tools were used. This study found that the selected banking institution in the domestic private sector in Sri Lanka was practicing characteristics of organizational effectiveness were satisfied or strongly satisfied level. The managers in this banking institution were practicing transformational leadership style and while practicing the transformational leadership style. Therefore, the study identified that transformational leadership positively impact on organizational effectiveness of the selected bank.

Keywords: Organizational Effectiveness, Transformational Leadership, Transactional Leadership.

Introduction

Today organizational effectiveness has become a dominant concept in the management, since the organizations are needed to be effective due to rapid challenging business environment at present. With the open economic system started in 1977, in Sri Lanka, the private sector is expected to play a major role with the main objective of developing the economy of the country. Having this main objective of developing the economy, a larger volume of human resources is pumped to the private sector. According to the Labour Force Survey-Quarterly Report 2022, 4th quarter, 43.4 percent employment was in the private sector. (Department of Census and Statistics, 2023).

The banking sector is a vital factor in developing the economy of the country. In Sri Lanka there are twenty-five (25) commercial banking institutions as at the end of 2022 (Central Bank, 2023). Mainly they can be categorized into two: 13 domestic commercial banking institutions and the branches of 12 foreign commercial banking institutions. Of these thirteen commercial banking institutions of Sri Lanka, two (02) banking institutions are state banks and the rest of banking institutions have been initiated by the domestic private sector.

As business organizations, the banking institutions too can fail from time to time since they are inherently risky business with the high competition in the business environment. Therefore, these banking institutions began to face great challenges. To address these challenges the productivity of these banking institutions has to be improved. The productivity is a combination of three basic elements: (i). Effectiveness. (ii). Economy. (iii). Efficiency. In this research study, it was considered organizational effectiveness of these banking intuitions to improve the productivity. It indicates that these banking institutions should pay their attention on strategies, resources, infrastructure, sustaining

people those need to achieve their organizational missions. Hence, organizational effectiveness of commercial banking institutions or Sri Lanka is an important factor which could be considered to overcome the challenges faced by them.

Leadership is a major contributor or direct cause of organizational effectiveness. Today, under the competitive business environment with the globalization, the leader of an organization faces a great challenge to run the organization effectively. Therefore, leadership an organization is vitally important at all levels within the organization and also, leadership directly affects to the organizational effectiveness. Therefore, this study seeks to examine the impact of leadership style on organizational effectiveness of selected commercial banking institution in the domestic private sector of Sri Lanka.

Research Questions

This study aimed to find out the answers for the following questions in relations to Sri Lanka commercial banking institutions in the domestic private sector.

1. What is existing degree of organizational effectiveness?
2. What is the specific leadership style practices in selected institution?
3. What is the impact of leadership style on organizational effectiveness?

Objectives

1. To measure the organizational effectiveness of the selected commercial banking institution in the private sector of Sri Lanka.
2. To identify the existing leadership style in this banking institution.
3. To measure the impact of leadership style on organizational effectiveness.

Literature Review

Organizational Effectiveness

The study of organizational effectiveness has long being province of those in the management science (Parhizani and Gilbert, 2004; Heerwagen and Heerwagan Associates, 2006). Therefore, today organizational effectiveness has become a dominant concept in the management. According to Cameron (1981); Sekaran (1984); Lachman and Wolf (1997); Gilbert and Parhizani, (2004), there is no universal definition of acceptable model for organizational effectiveness, since the best criteria remain elusive because of the goals and objectives of organizations are multiple and difficult to identify (Rodsutti and Swierczek, 2002). However, organizational effectiveness has been commonly defined as the extent to which an organization accomplishes it goal or mission (Cameron and Whetton, 1983).

There have been three primary approaches to define organizational effectiveness; (i). Goal attainment approach: considers as success if the goal of the dominant coalition are satisfied (Roy and Dugal, 2005). (ii). According to Perrow (1961); Simon (1964), the resources control approach; this approach considers if an organization wants to survive, it needs to be able to attract the needed resources from the environment to produce organization's output and here assumes that survival is the ultimate measure of the organizational effectiveness (Roy and Dugal, 2005). (iii). Multiple constituency approach: this considers the achievement of goals of different constituents' such as owners, employees, customers (Roy and Dugal, 2005).

In addition to the above models of organizational effectiveness, Quinn and Rohrbaugh (1983), have presented the competing values model to organizational effectiveness. Quinn and Rohrbaugh (1983); Quinn (1988), based on competing values model, identified four models of effectiveness; (i). Human relations model: this model emphasis on flexibility and internal focus and Cohesion, morale, and human resources development as the criteria for organizational effectiveness. (ii) Open system model: based on the flexibility and external focus. These processes bring innovation and creativity. (iii). Internal process model: emphasis internal and control focus. This model brings stability and control. (iv). Rational goal model: based on control and external focus. Emphasis on rational action and assumes that planning and goal setting results into productivity and efficiency. Competing values model can be illustrated by the Figure 1.

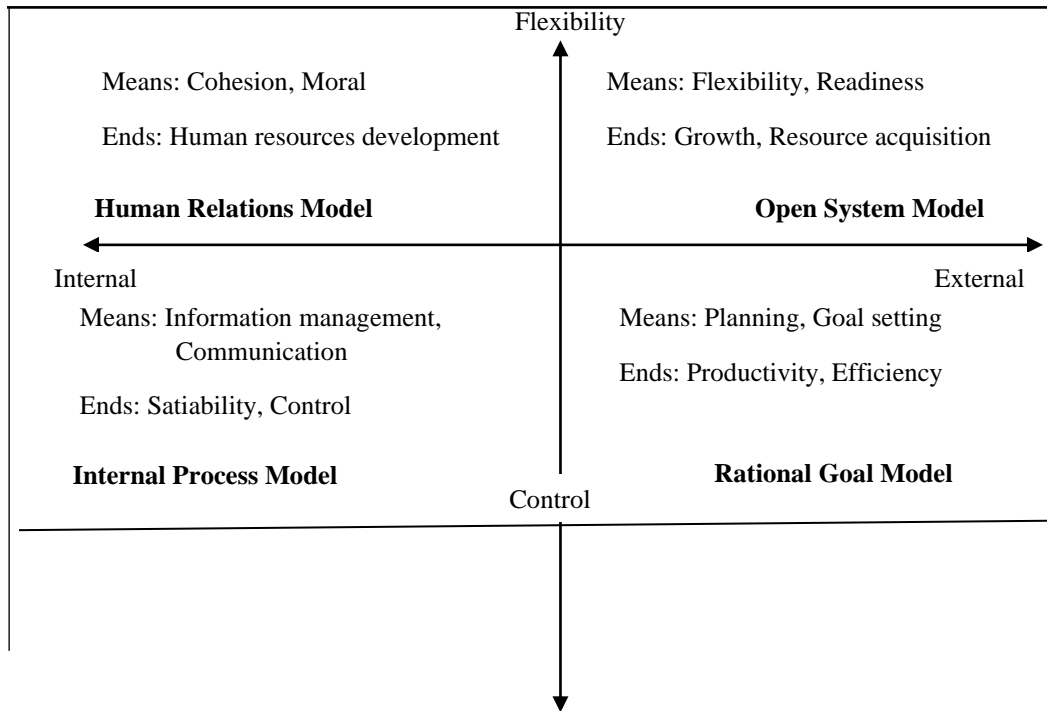


Figure 1: *Competing Values Model*
 Source: *Quinn and Rohrbaugh (1983)*

Measurements of Organizational Effectiveness

Assessing effectiveness are products of different arbitrary models of organizations, effectiveness is a product of individual values and performance. Therefore, the best criteria for assessing effectiveness cannot be identified (Cameron, 1986). Gilbert and Parhizani (2000a; 2000b), have identified a lack of consensus of in prior literature that existing on the definitions.

According to Heerwagen and Heerwagen Associates (2006), the first step in evaluating organizational effectiveness is understanding the organization itself, how it functions, how it structured, and what is emphasize. And further, they have identified number of factors constantly show up in effectiveness matrix. They were; achieving organizational mission, customer satisfaction, product/service quality and value, capacity to innovation and creativity, adaptation to organizational and technological change, effective information sharing and communication, employee attraction and employee retention, effective group and individual work, operational efficiency.

Leadership

There are number of definitions for leadership. Leadership has been defined by Hersey and Balanchard (1990), as the ability of influencing people to strive willingly for group effectiveness. Gardner (2005), defined leadership as the process of persuasion and example by which an individual (or leadership team) induces a group to take an action that is accorded with the leader’s purpose of the purpose of all. Therefore, leadership can be identified as the process of others attempt directing and forcing them to achieve organizational objectives.

Leadership Style

Leaders tend to exhibit various behavioural patterns in how they providing direction, how they influencing, how they planning, and how they motivating people. These many ways of behavioural patterns can be identified as leadership styles.

A dominant approach to leadership styles, based on transformational and transactional leadership by Bass (1985), and operationalized by Bass and Avolio (1994). The model of transformational and transactional describes as a single continuum from transformational to transactional to laissez-faire leadership (Ushagbem, 2004).

Transformational Leadership

Bass (1985); Bass and Avolio (1994); Den Hartog et.al. (1997); Hinkin and Tracy (1999), defined transformational leadership as in terms of four leadership characteristics; (i). Idealized influence: the leader act as and perceive as a strong role model for followers. According to Bono and Judge (2004); Simic (1998); tone, Russel and Patterson (2003), idealized influence is about to building confidence of the followers. The leader is admired, respected, and trusted by followers, and provides sense of both mission and vision that others want to follow. The leader shares risks with followers and consistent in conduct with underlying ethics, principles, and values (Bass, Avolio, Jung and Berson, 2003). (ii). Inspirational Motivation: the leader inspires followers to pursue a shared vision over self-interest. This leader is capable of arousing the subordinates to a part of the organizational culture and the environment. And the leader encourages followers envision attractive future states which they can ultimately envision for themselves (Bass, Avolio, Jung and Berson, 2003). (iii). Individual consideration: this leadership pays attention to reach individual's needs for achievement and growth by acting as a coach¹ and mentor². (iv). Intellectual stimulation: according to Barbuto (2005), the leader is in this style stimulates and encourages both creativity and innovation by questioning, assumptions, reframing problems and approaching old situations in new ways. Stone, Russel, and Patterson (2003), noted that leaders in this dimension empower followers by persuading them to propose new and controversial with fear of punishment or ridicule. Intellectual stimulation involves the arousal and change in follower's problem awareness and problem solving through the use of imagination with relation to belief and values (Bass, 1985). The most important aspect is how it relates to the intelligence of subordinates.

However, Tichy and Devanna (1999), noted that transformational leaders share number of common characteristics; (i). they identify themselves as change agents. Their professional and personal image is to make a difference and transform the organization that they have assumed responsibility for. (ii). they are encouraging individuals. These transformational leaders are risk takers, individuals who take a stand. (iii). they believe in people. They are powerful yet sensitive of other people, and ultimately, they work towards the employment of others. (iv). they are value driven. Transformational leaders are able to articulate a set of core values and exhibited behaviour that was quite congruent with their values, positions. (v). they are lifelong learners. They view mistakes as learning experiences. (vi). they have the ability to deal with complexity, ambiguity, and uncertainty. (vii). they are visionaries. Transformational leaders are able to dream, able to translate those dreams and images so that others could share them.

Transactional Leadership

Bass (1985), noted that the transactional leadership behaviours aimed to monitoring and controlling of employees through rational or economic means. Bass (1990); Bass and Avolio (1994), argued that transactional leadership is an exchange process between leaders and followers. In this leadership, the leader identifies the specific follower desires and provides goods that meet those desires in exchange for follower's meeting specific objective or performing certain duties (Ushagbem, 2004). On the other hand, leader are benefitted from completion of tasks while followers receive rewards for the job performance (Northhouse, 2001). Behaviours and traits of followers are influenced by incentives offered by the leader (Politis, 2003).

According to Bass (1985); Bass and Avolio (1994); Hater and Bass (1998); Den Hartog et.al. (1997); Bono and Judge (2004), dimensions of transactional leadership are; (i). Contingent reward: the leader provides rewards on follower's achievements of specified performance level. Bono and Judge (2004), noted that contingent rewards refer to leadership behaviours and focused on exchange of resources and leader provides tangible and intangible support and resources to followers in exchange for their support and performance. (ii). Active management by exception: the leader actively seeks out variations from desired performance on the part of followers with a view to taking corrective action (Pounder, 2001). (iii). Passive management by exception: the leader does not seek out deviations for desired

¹ Plilippe Ronsinski (2005), defined the coaching as the art of facilitating and understanding of people's potential to reach meaningful important objective.

² Gardon (1997), defined mentoring as a fundamental form of human development where one person invests time, energy, and personal know-how is assessing to growth and ability of another person.

performance and only take action when problems present themselves (Pounder, 2001). This leadership is inactive and may be required and effective in some situations when it is necessary to supervise larger number of followers who directly report to the leader.

Transformational, Transactional Leadership and Organizational Effectiveness

According to Avolio and Howell (1992); Bass (1985); Selter and Bass (1990); Ross and Offerman (1997), few studies have actually examined the link between the exercise of transformational and transactional leadership, and overall organizational effectiveness (Pounder, 2001). Brunes (1998); Lachman and Wolf (1997), noted that examine the link between transformational and transactional leadership and organizational effectiveness is hampered by the absence of general agreed definition of organizational effectiveness (Pounder, 2001). Thus, Bass and Avolio (1994); Brunes (1998), have argued that transformational leadership is more proactive and ultimately more effective, than transactional, corrective or avoidant leadership in terms of motivating followers to achieve higher performance (Berson and Avolio, 2004).

The literature in leadership has been showed that the relationship between the transformational leadership. According to Bass (1985), transformational leadership increases the confident and motivation of followers to obtain performance beyond expectations (Politis, 2003). A study relating to leadership done by Geyer and Sterer (1998), evaluated Austrian bank branches and reported stronger positive relationship between transformational leadership and long-term versus short term performance. Thus, they could find a strong relationship between transformational leaders and long-term performance due to transformational leaders are creating more inspired, committed and cohesive in their banks (Bass, Avolio Jung and Berson, 2003). According to Power and Bastman (1977), transformational leaders use their component abilities of inspiring intellectually, stimulating and individually considerate leadership to motivate followers to higher levels of achievements. And also, they achieve greater organizational performance by aligning individuals with the strategic vision, mission and collective goals of their organization (Berson and Avolio, 2004). As Kirkpartrick and Lock (1996), critical organizational outcomes such as, satisfaction, organizational performance, group performance, and commitment have associated with transformational leadership style. Thus, Meta-analysis conducted by Lowe, Kroeck, and Sivasubramaniam (1996); Patterson, Fuller, Kester and Stringer (1995), confirmed that the positive relationship between transformational leadership and performance, noted in the leadership literature (Bass, Avolio, Jung and Berson, 2003).

Transactional contingent reward leadership relates positively to performance in that such leaders clarify expectations and recognize achievements that positively contribute to higher levels of performance (Bass, Avolio, Jung and Berson, 2003). On the other hand, transactional leadership, performance context may elevate the importance of the role transactional leadership plays in contributing to effective leadership (Bass, Avolio, Jung and Berson, 2003). The effective leadership positively relates with the organizational performance and effectiveness. However, Burnes (1998), described transactional leadership as representing the lower type that transformational leadership should add to in predicting performance.

Hypotheses Development

At present Sri Lankan banking Institutions are facing some challenges including improving of staff cost effectiveness. Therefore, the management should pay their attention on the organizational effectiveness of their institutions. Thus, the management is required to motivate, build the confidence of their subordinates to higher levels of performance and effectiveness of their institutions.

Transformational leaders are expected to enhance the performance capacity of their followers by setting higher expectations and generating a greater willingness to address for more difficult challenges (Avolio, 1999; Bass, 1998). Transactional contingent reward leadership also relates positively to performance by these leaders are clarifying expectations and recognize achievements that positively contribute to high level of organizational effectiveness (Bass, Avolio, Jung and Berson, 2003). Therefore, on the basis of prior literature, there is sufficient justification to propose transformational and transactional leadership model to test leadership style of commercial banking institutions in the domestic private sector of Sri Lanka.

Therefore, considering the dimensions of transformational leadership and organizational effectiveness, it can be argued that degree of transformational leadership of managers of this banking institution positively affects to its organizational effectiveness. Hence, the following hypothesis was developed for the study.

H_{1a}: Transformational leadership style impacts positively on organizational effectiveness.

Thus, considering the dimensions of transactional leadership as well as the literature related to relationship between transactional leadership and organizational effectiveness, it can be argued that transactional leadership of managers of this banking institution positively effects to organizational effectiveness of this banking institution. Hence, the following hypothesis was developed for the study.

H_{1b}: Transactional leadership impacts positively on organizational effectiveness.

Conceptual Framework

Conceptual framework of the study attempts to establish the relationship between the variables of the study. In this study the dependent variable is organizational effectiveness. The independent variable is leadership style. Therefore based on the literature, the conceptual framework seeks to establish the relationship between leadership and organizational effectiveness. The appropriate conceptual framework for the study can be elaborated by the Figure 2.

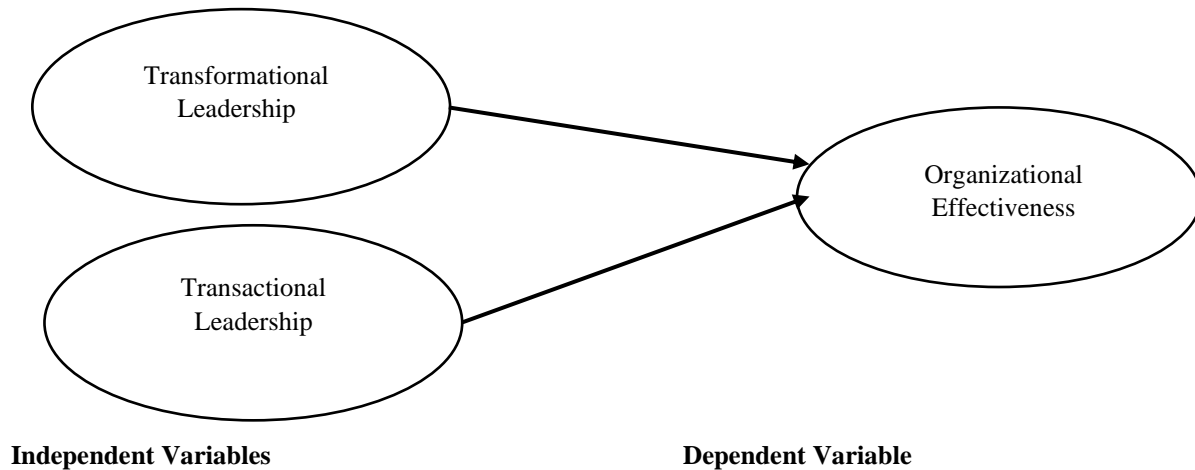


Figure 2: Conceptual Framework of the Study

Methodology

Measurements of Variables

In this study, the dependent variable was measured by following dimensions and it can be elaborated by Table 1.

Table 1: Measurements of Organizational Effectiveness.

Attribute	Indicators
a) Achieving organizational mission	Activities are aligned with the mission of the bank Institution achieved its goals guided mission to its optimal level
b) Capacity to innovation and creativity	Institution has sufficient capacity to innovate to cope with the changing environment
c) Adaptation to organizational and technology change	Institution changes or adopts its organizational structure from time to time to cope with the business environment Institution brings or adopts new technology as to achieve organizational objectives

d)	Effective information sharing and communication	Sufficient communication and sharing of clear information on time between institute and leader to achieve institutional objectives Sufficient communication and sharing of clear information on time between leader and subordinates to achieve institutional effectiveness Sufficient mutual support between leader and subordinates to achieve the targets of the institution
e)	Satisfaction	Self-motivated and work willingly and effectively
f)	Employee attraction and retention	Seeking another place for work and try to leave

Thus, the independent variable of the study, the leadership style was measured by the following dimensions and it can be elaborated by the Table 2.

Table 2: Measurements of Leadership Style

Leadership style	Dimensions	Indicator
Transformational Leadership	Idealized influence ²	manager always tries to build subordinates' confidence Subordinates admire, respect and trust the manager Manager always shares risks as well as credits with subordinates
	Inspirational motivation	Manager directs us to pursue a shared vision rather than our self-interests Manager always inspires team spirit As the leader, manager always displays the enthusiasm and optimism
	Intellectual stimulation	Manager always considers the individual differences in terms of needs and desires Manager always tries to develop subordinates for higher levels of potential Subordinates can understand manager believes that delegation of authority is the most important to achieve the targets successfully
	Individual consideration	Manager encourages for creativity and innovation Manager empowers subordinates by persuading to propose new and controversial ideas in problem solving Manager seeks different perspectives when solving problems
Transactional Leadership	Contingent reward	Manager recognizes and appreciates the achievements of each of subordinate Manager provides tangible and intangible resources to subordinates for their efforts and specified performance levels Manager pays his/her attention to what his/her subordinate can get for what they performed
	Management by exception	Manager always monitors deviations from subordinates' desired performance Manager always monitors subordinates' mistakes and errors Manager takes immediate corrective actions to mistakes and errors done by subordinates

Construction of Questionnaire

Survey method was used to collect data for this study and a questionnaire was used to collect data from respondents. The questionnaire was built based on major concepts of literature and it consists of two sub sections. Part one consisted of questions related to respondents' demographic and general data. Part two to measure the variables of the study, the organizational effectiveness and leadership style.

Sample and Sample Procedure

The data was collected from the subordinates of a selected commercial banking institution in the domestic private sector of Sri Lanka. The study was limited to the subordinates of the branches of the selected banking institution located in the Western Province in Sri Lanka. The subordinates of this banking institution consisted of executives, junior executives, banking and graduate trainees, banking assistants and support staff. To represent

subordinates from each branch, stratified random sampling method was used. The sample size of the survey was set at 341 subordinates according to the table developed by Krejcie and Morgan (1970).

Pilot Study

According to Luck and Rubin (1987), a pilot study sample should around 10 to 30 members of the population, the developed research instrument was distributed among selected 20 members of the sample as a pilot test before moving to the main study. In this pilot study, the overall responses were satisfied.

The Data Collection

With the satisfied responses at the pilot study 350 questionnaires were distributed among subordinates of selected commercial banking institution in the domestic private sector of Sri Lanka, with the intention of meeting the target of collecting 341 questionnaires from the respondents. The response rate was moderate and total of 224 completed questionnaires could be collected. After checking the quality of responses, 27 cases were omitted due to missing values and 197 usable completed questionnaires were obtained and based on those 197 completed cases, the analysis was performed.

Data Analysis

The selection of the most suitable statistical analysis is very important part research study. In order to explore the research problems, objectives, and data characteristic, most appropriate statistical analysis should be selected. Therefore, in order to analyze the data for the purpose of finding answers for the research questions descriptive statistics and appropriate inferential statistical techniques were used.

Reliability

Internal consistency reliability was used to access the reliability of a summated scale where several items were summated to form total score (Bricks and Malhotra, 2006). Cronbach’s Alpha value for transformational leadership was 0.72 and 0.68 was for transactional leadership. Cronbach’s Alpha for organizational effectiveness was 0.69.

Data Analysis

Demographic Profile of the Sample

Demographics are most contemporary statistics characteristics of a population. Commonly examined demographics include gender, race, age, employee status etc. Hence, the part I of the questionnaire covered the demographic characteristics of respondents such as gender, age, educational level, and working experience. And some background data such as employment status, and number of colleagues. Thus, the personal data will be helpful to contextualize the findings and the formulation of appropriate recommendations to the subject matter.

Table 8: Demographic Profile

	Frequency	Percentage
Statuses of Employment		
Junior Executive	68	34.5
Clerk	55	27.9
Banking Assistant	74	37.6
Total	197	100.00
Gender		
Male	160	81.2
Female	37	18.8
Total	197	100.00
Age		
30 and under	75	38.1
31-35	35	17.8

36-40	26	13.2
41-45	26	13.2
46-50	14	7.1
51-55	14	7.1
56-60	7	3.6
60 and above	0	0.0
Total	197	100.00
Education Level		
GCE O/L	9	4.6
CGE A/L	57	28.9
Diploma	59	29.9
Bachelor's Degree	26	13.2
Other	46	23.4
Total	197	100.00
Professional Education		
Institute of Chartered Accountants (ICA)		
Chartered Institute of management Accountants (CIMA)	08	4.1
Institute of Bankers in Sri Lanka (IBSL)		
Others	5	2.5
None		
Total	167	84.8
Working Experience		
0-5 Years	2	1.0
6-10 Years	15	7.6
11-15 Years	197	100.00
16-20 Years	35	17.8
More than 20 Years	51	25.9
Total	40	20.3
Number of Colleagues		
1-5	41	20.8
6-10	30	15.2
11-15	197	100.00
16-20	3	1.5
More than 20	16	8.1
Total	55	27.9
	66	33.5
	57	28.9
	197	100.00

According to Table 8, 37.6 percent were baking assistants and, is the majority, junior executives and clerks accounted for 63.4 percent from these 197 samples 160 (81.2%) respondents were male employees. From the sample, employees under 35 years accounted for 110 (55.8%). Respondents above 50 years were only 21 (10.7%). 131 (66.3%) of respondents had Diploma or higher level of educational qualification. Further, 167 (84.8%) out of 197 respondents processed IBSL professional qualification.

As indicated in the Table 3, the mean value of the distribution for organizational effectiveness was 4.2948. Therefore, organizational effectiveness of the respondents can be identified as 'good' since it was greater than 3.

Table 3: Descriptive Statistics Results for Organizational Effectiveness

Organizational Effectiveness	Value
Mean	4.228
Median	4.300
Mode	4.300
Std. Deviation	.268
Skewness	-.832
Kurtosis	.345

According to Table 3, median and mode values were higher than 4 and it has emphasized that majority of the respondents satisfied or strongly satisfied with the statements that were used to measure the organizational

effectiveness. The Skewness and Kurtosis of the distribution were -.831 and .345 which indicated that the data recorded for the organizational effectiveness were approximately normally distributed.

Table 4: Descriptive Statistics Results for Organizational Effectiveness Dimensions

		Mean	Median	Mode	Std. Deviation
Mean	Achieving Organizational Mission	4.177	4.000	4.000	.314
	Capacity to Innovation and Adaptation to Organizational Change	4.659	5.000	5.000	.495
	Information Sharing and Communication				
	Employee Satisfaction and Retention	4.293	4.333	4.000	.367
		4.031	4.000	4.000	.814

After the factor analysis six organizational dimensions have combined in to four. When consider those dimensions, as shown in Table 4, the combined variable ‘capacity to innovation and creativity’ and ‘adaptation to organizational and technological change’ have recorded the highest mean value as 4.659. And the median and mode values for that dimension were 5. It indicates that most of the respondents were strongly satisfied with the remaining statements (one statement was eliminated due to inconsistency) which were used to measure this combined dimension.

Table 5: Descriptive Statistics Results for Leadership Styles

		Mean	Median	Mode	Std. Deviation	Skewness	Kurtosis
Mean	Transformational Leadership	4.154	4.167	4.000	.193	.271	-.628
	Transactional Leadership	4.179	4.169	4.170	.264	-.227	.513

The mean values of the distribution of transformational and transactional leadership styles were 4.154 and 4.179 respectively. Thus, as indicated by Table 5, both leadership styles can be identified as ‘good’ since the values were greater than 3. However, transactional leadership has recorded higher mean value than that of transformational leadership. Both median and mode values recorded higher for transactional leadership. It indicated that most of the respondents were satisfied or strongly satisfied with the statements that were used to measure the transactional leadership. And the Skewness and Kurtosis of two distributions were laid between +2 and -2 which indicated that the distributions of leadership styles were normally distributed.

Table 6: Descriptive Statistics Results for Transformational Leadership Dimensions

		Mean	Median	Mode	Std. Deviation	Skewness	Kurtosis
Mean	Idealized Influence	3.7716	3.6667	3.67	.3783	.351	.154
	Inspirational Motivation	4.4518	4.3333	4.67	.3004	-.722	.417
	Intellectual Stimulation	3.8731	4.0000	3.67	.4341	.120	.249
	Individual Consideration	4.5186	4.6667	4.67	.3590	-.564	.114

According to Table 6, Kurtosis and Skewness values for all four dimensions of transformational leadership were laid between +2 and -2 and therefore they can be considered as normally distributed.

When consider each dimension of transactional leadership, as shown in Table 7, management by exception (TSL.f) has recorded the highest mean value than contingent reward (TSL.e) dimension. And it has received the higher median and mode values. It indicates that most of the respondents were satisfied or strongly satisfied with the statements that were used to measure the management by exception dimension. Kurtosis and Skewness values for both two dimensions were laid between +2 and -2 and therefore it can be considered as normally distributed.

Table 7: Descriptive Statistics Results for Transactional Leadership Dimensions

		Mean	Median	Mode	Std. Deviation	Skewness	Kurtosis
Mean	Contingent Reward	4.0237	4.000	4.00	.3291	.628	1.257
	Management by Exception	4.3333	4.3333	4.33	.4013	-1.064	1.919

Impact of Leadership Style on Organizational Effectiveness

The linear regression model used to examine the impact of leadership style on organizational effectiveness of these private sector domestic commercial banking institutions of Sri Lanka.

The regression coefficient of transformational leadership was 0.212 (see the Table 9), which highlights that the level of organizational effectiveness increased by 0.212 when the transformational leadership increases by one unit while the other dimensions remain constant in the commercial banking institutions in the domestic private sector of Sri Lanka.

Table 9: Regression Analysis (Coefficient Table)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.275	.512		6.391	.000
	FAC_ Transformational Leadership	.212	.072	.217	1.644	.012
	FAC_ Transactional Leadership	.119	.099	.079	1.117	.265

a. Dependent Variable: FAC_ Organizational Effectiveness

H_{1a}: Transformational leadership impacts positively on organizational effectiveness.

Table 9, indicated that the Sig value of transformational leadership as .012, which was less than 0.05 (P<0.05). Thus, it indicated that the transformational leadership statistically predicts the dependent variable of organizational effectiveness. Therefore, it can be concluded as the transformational leadership impact positively on organizational effectiveness. Hence, the developed hypothesis for the study H_{1a} was accepted.

H_{1b}: Transactional leadership impacts positively on organizational effectiveness

As per Table 9 indicated that the Significant value of transactional leadership as 0.265 which was higher than 0.05 (P>0.05). Thus, it indicated that the transactional leadership statistically does not predict the dependent variable of organizational effectiveness. Therefore, it can be concluded that transactional leadership does not impact on organizational effectiveness. Hence, the developed hypothesis H_{1b} for this study, was rejected.

Furthermore, this study seeks to identify what leadership style of managers has a greater impact on organizational effectiveness of the banking institutions.

As per the multiple linear regression analysis, F value was 1.948 which is closer to 2. According to the Table 10, P value was depicted as 0.045, which was less than 0.05. Thus, it indicated that the fitted model statistically predicts the dependent variable of organizational effectiveness significantly well.

Table 10: Regression Analysis (ANOVA Table)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.277	2	.138	1.948	.045 ^a
	Residual	13.780	194	.071		
Total		14.056	196			

- a. Predictors: (Constant), FAC_ Transformational Leadership
- b. Dependent Variable: FAC_ Organizational Effectiveness

Table 11: Regression Analysis (Coefficient Table)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.737	.302		12.361	.000
	FAC_ Transformational Leadership	.117	.072	.116	1.626	.048

- a. Dependent Variable: FAC_ Organizational Effectiveness

Table 12: Regression Analysis (Coefficient Table)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.781	.412		9.188	.000
	FAC_ Transactional Leadership	.108	.099	.078	1.088	.278

- a. Predictors in the Model: (Constant), FAC_ Transformational Leadership
- b. Dependent Variable: FAC_ Organizational Effectiveness

As shown in the Table 11, transformational leadership had recorded P value as .048, which was less than 0.05. Table 12 depicted that the P value for transactional leadership as 278, which was higher than the standard level of 0.05. Therefore, consequently, it can be concluded that in the selected commercial banking institution, the impact of transformational leadership of managers on organizational effectiveness is higher than the impact of transactional leadership style on organizational effectiveness in this banking institution.

Discussion and Conclusions

With regard to the organizational effectiveness of selected commercial banking institution in the domestic private sector of Sri Lanka, it was practicing and employees were known about the organizational effectiveness with a satisfied level. In general, they were involved in good practicing on organizational effectiveness. The analysis had shown both mean and mode values for all dimensions of organizational effectiveness were more than 4.00 on a five-point scale. ‘Capacity to innovation and adaptation to organizational change’ accounted mode value as 5.00. That reflects the all practices in relations to organizational effectiveness of this selected commercial banking institution were satisfied or strongly satisfied. One reason which could be identified for this situation is the educational qualification and the professional qualification level. Two third of subordinates in this banking institution were having diploma level education or higher level of education. Thus, more than 90 percent of subordinates were having IBSL professional qualification. Academic qualification and professional qualification of employees are directly affected to their organizations’ effectiveness. Another reason is subordinates in selected banking institution was working with a larger number of colleagues in majority of branches. The analysis indicates that one third of subordinates were working with more than 20 colleagues. Thus, the analysis indicated that ‘capacity to innovation and adaptation to organizational change’ in this selected bank were in strongly satisfied level. Satisfied level in ‘capacity to innovation and adaptation to organizational change’ positively effect on their organizations’ effectiveness.

The analysis of this study depicted that transformational leadership style statistically predicted the organizational effectiveness significantly well. And also B value of transformational leadership style recorded as .212. With regard to the transactional leadership style, the Significance value was higher than 0.05. Thus, transactional leadership style did not predict the organizational effectiveness (see Table 9). Therefore, it can be concluded that transformational leadership positively impacts on organizational effectiveness of the selected banking institution.

This finding of the study was supported with the finding of study done by Geyer and Steer (1998), in relation to Asutrian Banks. The researchers reported a stronger positive relationship between leadership and performance. Another study done by Kirkpertrick and Locke (1996), found that critical outcomes such as satisfaction, organizational performance and commitment are associated with transformational leadership. The analysis of this study also depicted that subordinates satisfaction and retention of this bank were in higher level (see Table 4). A Meta-analysis conducted by Lowe, Krok and Sivasubramaniyam (1996); Patterson, Fuller, and Stringer (1995), confirmed that a positive relationship between the transformational leadership style and organizational performance.

The study found that managers in this banking institution were practicing characteristics of transformational leadership style. Within these characteristics, managers actively listen and also cares individual needs of their subordinates. Thus, subordinates are raised to higher levels of potential. Because of these leadership characteristics of managers, the moral of subordinates specially in younger subordinates increases to a higher level and it positively affects to the organizational effectiveness. And also, when consider the professional educational levels of subordinates in this bank, 84 percent of subordinates were having IBSL Institute of Bankers of Sri Lanka (IBSL) professional qualification. That reflected need of carrier development of subordinates. Therefore, the managers who are having this type of leadership characteristics are more effective for this bank. With regard to the other dimensions of transformational leadership style, the managers act as a strong role model for their subordinates. And also, the manager provide sense of both mission and vision that subordinates want to follow. Thus, with the inspirational motivation of dimension of transformational leadership, the manager encourages subordinates to envision attractive state which they can ultimately envision for themselves (Bass, Avolio Jung and Berson, 2003). That is a main need of younger subordinates. Therefore, this characteristics of leadership of managers encourage subordinates for achieving organizational objectives. According to Stone, Russel and Patterson (2003), under the intellectual stimulation dimension characteristics of transformational leadership style, the manager empower subordinates by persuading them to new and controversial ideas without fear or being punished or ridicules. Since the majority of subordinates in this selected bank were having IBSL professional qualification, which focused on the banking industry, these characteristics of managers were effective and it leads to the organizations' effectiveness. Hence it can be concluded that transformational leadership is suit with commercial banking institutions in the domestic private sector of Sri Lanka.

With regard to transactional leadership style in relation to this bank, dimension of management by exception recorded the highest mean and mode values. It reflected that the managers of this bank were practicing the characteristics of management by exception dimension of transactional leadership style. In this leadership dimension managers actively seek out deviations from desired performance of their subordinates with a view to taking corrective actions (Pounder, 2001). However, management by exception tends to be less effective than contingent reward dimension, the other dimension of transactional leadership. In this study, the mean and mode values for contingent reward dimension was less than the management by exception dimension which is less effective than contingent reward dimension. While practicing transformational leadership style by managers of this bank, they were practicing management by exception characteristics of transactional leadership style due to they have to achieve their organizational objectives with a majority of subordinates in this banking institution.

With regard to the fourth research question of the study 'what is the impact of leadership style on organizational effectiveness?' for this selected banking institution in the domestic private sector of Sri Lanka, transformational leadership recorded P value as 0.012, and B value was 0.212 (see Table 09). Thus, Table 09 depicted that P value of transactional leadership as 0.265 which is greater than standard value. Therefore, it can be concluded that the impact of transformational leadership style on organizational effectiveness is greater than the impact of transactional leadership style on organizational effectiveness in relation in this banking institution. Thus this finding was supported with finding of the study conducted by Bass (1985); Bass and Avolio (1994); Brunen (1998). They argued that transformational leadership style is more proactive than and ultimately more effective than transactional leadership style.

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THE ROLE OF TRANSFORMATIONAL LEADERSHIP ON USER ACCEPTANCE AND BEHAVIOURAL INTENTION TO USE HUMAN CAPITAL MANAGEMENT SYSTEMS (HCM): A CONCEPTUAL STUDY

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Abstract

Information systems provide the technological backbone that supports human resource management (HRM) functions. Nevertheless, in the Sri Lankan context, it was revealed that lack of user acceptance and use related to Human Capital Management Systems (HCM), leads to poor returns on technology investments. The acceptance of the HCM by its users is considered as an important aspect predicting its effective or optimal use of the HCM. The important effects of Transformational Leadership on Information Technology (IT) Acceptance and Use are a popular agreement among human resource management practitioners. Thus, the role Transformational Leadership is suggested to give prominence in improving the usage of the Human Capital Management Systems. The main objective of this concept paper is to propose a study on whether there is an impact of transformational leadership on direct determinants of user acceptance and behavioural intention to use human capital management systems. This study uses the quantitative techniques due to the positivism philosophy and adopts the deductive approach in this conceptual study. This concept paper will provide insights into the mediating impact of UTAUT constructs on the relationship between the behavioural intention to use human capital management systems technology and the transformational leadership. The implications of this study would be useful for effective utilization of the information systems such as human capital management systems which leads to effectiveness of the organizational operations and goal achievement.

Keywords: transformational leadership, performance expectancy, social influence, effort expectancy, behavioural intention to use HCM

Introduction

Human resource management or rather human capital management using information technology is significantly impacted with the emergence of a global workforce as well as with the increased relevance of business analytics as a strategic organizational capability as per Bag, et al. (2021). The success of a business entity is inevitably determined on the performance of its human resource which is also known as human capital in the contemporary knowledge-based economic environment with the changing global environment (Noutsu, Kala Kamdjoug, & Wamba, 2017). The professional standing of human resource management professionals is enhanced by the effective use of information systems used for human resource/capital management (HRIS/ HCM) for strategic collaborating, increasingly making the strategic use of human resource management as per Hussain, Wallace and Cornelius (2007). Human Resource management related information systems functionality enables faster decision making on the development, planning and administration of the human resource/capital management due to ease of data manipulation along with ease on updates, classifications and analysis, making the human capital management to strengthen an organization's character (Ngai and Wat, 2006; Nastjuk et al, 2020; Perera & Abeysekara, 2019).

The important effects of leadership on Information Technology (IT) Acceptance and Use are a popular agreement among human resource management practitioners who use human capital management systems (HCM) which is a further step ahead of the above mentioned HRIS with more strategically advanced technology. As the organizations culture also plays a significant role on influencing the transformational leader's intention to use human

capital management systems the organizations culture which promotes transformational leadership climate would alter management such as the leadership style of the leaders (Burton & Peachey, 2014; Bonsu, & Twum-Danso 2018). Nevertheless, there is a dearth of empirical research studies which explored the leadership phenomenon in terms of the Information Technology (IT) Acceptance and Use which can be applied in the real world for implications as per Neufeld et al. (2007).

Given the past literature on information system user acceptance, the Unified Theory of Technology Acceptance and Use of Technology Model (UTAUT) was seldomly extended with leadership related concepts as an exogenous variable where few researchers have researched on extending the UTAUT model with such as the concept of charismatic leadership influence on the technology users especially focusing on the inspirational motivation and idealized influence behaviours (Neufeld et al., 2007; Venkatesh et al., 2016; Perera & Abeysekara, 2019).

Buttle (2004) contends as mentioned in Abeysekera and Wickramasinghe (2012a) that “Leadership is very important to the success of Customer Relationship Management (CRM) implementations” where CRM is an information system used for marketing in organizations. Thus, when it comes to the human capital management also, leadership is very important to the success of Customer Relationship Management (CRM) implementations (Perera & Abeysekara, 2019). Similarly, the influence of leadership on the information systems user acceptance and use behaviour is an important phenomenon to be researched further, which was not explained through the available information systems user acceptance and use related knowledge adequately (Neufeld et al., 2007; Siriwardene & Dharmasiri, 2012; Venkatesh et al., 2016). Thus, the impact of transformational leadership can be identified as an insignificantly addressed in extending the most validated UTAUT model which can be adopted to explain the human capital management systems user acceptance and use phenomena with significant accuracy.

The impact of transformational leadership on the UTAUT model’s direct determinants of the intention to use technology, namely performance expectancy, effort expectancy, social influence has not yet significantly studied in the individual information technology acceptance and use related research specifically on the study context of human capital management systems (HCM) technology so far (Neufeld et al., 2007; Venkatesh et al., 2016; Nastjuk et al., 2020; Ahmed et al., 2022). Furthermore, the study on UTAUT has explained only a 77% of the variance in behavioural intention to use a technology as mentioned by Venkatesh et al. (2016). Despite the research into the above-mentioned concepts, these constructs have not yet been conceptualized in coherence in the past literature. Therefore, the unexplained proportion of the transformational leadership influence on information technology user behaviour phenomenon of on human capital management systems (HCM) technology is yet to be discovered on the impact of transformational leadership on the UTAUT model’s direct determinants of intention to use human capital management systems technology to expand the existing knowledge on the information systems user acceptance and Behavioural Intention to use HCM.

According to Weick, (1990) as cited by Fisher and Howell (2004), human capital of an organization perceives the changes in the organizational environment such as a new computer system by creating interpretations of it through a sense making process. According to the study conducted by Neufeld et al. (2007) the findings showed that the influence of a leader’s Inspirational Motivation and idealized influence, which are two main characteristics of a transformational leader on behavioural intention was mediated by three of the four UTAUT variables which are namely, the Effort Expectancy, the Social Influence and the Performance Expectancy which are the underlying attitudes of the Theory of Planned Behaviour (TPB) (Venkatesh et al., 2016); Perera & Abeysekara, 2019). Thus, it can be recognized through literature, that the transformation of the attitudes of the information system user is crucial for the success of the effectiveness of an information system such as human capital management systems (Neufeld et al., 2007; Venkatesh et al., 2016; Perera & Abeysekara, 2019).

There have only been very few studies on leadership and user acceptance of information technology on the exogenous impact of leadership charisma or on the UTAUT model which showed that the idealised influence or leader’s charisma on behavioral intention was mediated by the three of the UTAUT variable where the transformational traits of leadership was enacted through these UTAUT behavioral constructs (Neufeld et al., 2007; Perera & Abeysekara, 2019). Therefore, this concept paper tries to integrate the Unified Theory of Acceptance and Use of Technology (UTAUT) Acceptance and Use constructs with Transformational Leadership theory. Therefore, the main objective of this study is to identify whether there is an impact of transformational leadership on direct determinants of user acceptance and behavioural intention to use human capital management systems. Therefore, this concept paper seeks to propose a conceptual model in solving the research question of “Whether there is an impact of

transformational leadership on direct determinants of user acceptance and behavioural intention to use human capital management systems?”

Literature Review

Direct Determinants of Behavioural Intention to Use Human Capital Management Systems

Implementing a Human Capital Management Systems can mainly support a number of Human Capital management functions such as workforce planning, staffing, compensation programs, salary forecasts, pay budgets and employee relations according to Bal, Bozkurt, and Ertemsir (2012). Human Capital Managers as well as Information Systems related researchers stress the need to understand the factors that contribute to the success of HCM (Ngai & Wat, 2006); (Hussain et al., 2007) ;(Perera & Abeysekara, 2019).

The literature on information systems such as Human Capital Management Systems are enriched over the years to explain the user acceptance in influencing the information systems user behavior (Venkatesh et al., 2016). Information systems user acceptance is a salient factor which predicts the information systems effectiveness or the optimal usage (Venkatesh et al., 2003; Neufeld et al., 2007; Venkatesh et al., 2012; Venkatesh et al., 2016). Whereas the role of intention as a predictor of actual use is critical and has been well-established in Management Information Systems and the reference disciplines (Venkatesh et al., 2003; Neufeld et al., 2007; Venkatesh et al., 2012; Venkatesh et al., 2016).

The Unified Theory of Technology Acceptance and Use of Technology Model (UTAUT), synthesizes technology acceptance and use related significant theoretical findings as per Venkatesh, et al. (2003); Venkatesh, et al. (2012); Venkatesh, et al. (2016). The UTAUT model’s Direct Determinants of Behavioural Intention to Use technology, in this case the Human Capital Management Systems, adopts the underlying beliefs of the theory of Planned Behaviour (Venkatesh, et al., (2003); (Venkatesh et al., 2016); (Perera & Abeysekara, 2019). Therefore the more favourable the attitude towards the behaviour stronger the individual’s intention to perform it. (Venkatesh et al., 2012); (Venkatesh et al., 2016); (Perera & Abeysekara, 2019).

Performance Expectancy, Social Influence and Effort Expectancy

The validated model of UTAUT strongly emphasizes the important factor of utilitarian value or the extrinsic motivation which is depicted by the construct Performance Expectancy (Venkatesh et al., 2003). This has been consistently shown to be the strongest antecedent of the behavioral intention as per (Davis, 1989); (Venkatesh & Davis, 2000); (Venkatesh et al., 2003); (Venkatesh et al., 2012); (Venkatesh et al., 2016); (Perera & Abeysekara, 2019).

Social Influence represents the attitude about the likely consequences or other attributes of the behavior and the attitude about the normative expectations of other people are represented as per the theory of Planned Behaviour by Ajzen (2002). The Subjective Norm which is represented by the Social Influence construct in the base model, refers to the individual’s perceptions of general social pressure to perform or not to perform the behaviour (Venkatesh et al., 2016). It is mentioned that if an individual perceives that significant others approve of the behaviour, they are more likely to have the intention to perform it (Venkatesh et al., 2003); (Venkatesh et al., 2012); (Venkatesh et al., 2016); (Perera & Abeysekara, 2019).

The perceived behavioural control or the perceived ease or difficulty of performing the behaviour is represented with the effort expectancy in the original model prescribed in the theory of planned behaviour (Venkatesh et al., 2003); (Venkatesh et al., 2012); (Venkatesh et al., 2016); (Perera & Abeysekara, 2019). The attitude about the presence of factors that may further or hinder performance of the behaviour is represented with the facilitating conditions which is also defined as the degree to which an individual believes that an organizational and technical infrastructure exists to support use of the system (Ajzen, 2002; Roewecklein, 2006). It is mentioned that this variable is closely related to the concepts of perceived behavioural control (Ajzen, 1991 as cited evidence by Venkatesh et al., 2016) Thus, if effort expectancy is not present in the model, the facilitating conditions which are present in the original UTAUT model could be used as a variable in predicting the behavioural intention (Venkatesh et al., 2003); (Venkatesh et al., 2012); (Venkatesh et al., 2016); (Perera & Abeysekara, 2019).

Behavioural intention to use human capital management systems

Behavioural intention defines the degree to which a person exerts effort to perform a behaviour and includes the motivational forces that produce planned behaviour as mentioned in the theory of planned behaviour (Michaelis, Stegmaier, & Sonntag, 2009). The variable behavioural intention means is to adopt, which also can be identified as a person's readiness to perform a given behaviour (Ajzen, 2002); (Roeckelein, 2006). The combination of the three variables, performance expectancy, social influence and effort expectancy other than the facilitating conditions, leads to a behavioral intention in the validated UTAUT model which predicts the technology user acceptance and use behaviour (Venkatesh et al., 2003; Venkatesh et al., 2012; Venkatesh et al., 2016; Perera & Abeysekara, 2019). The theory of planned behaviour or its predecessor, the theory of reasoned action, provided strong evidence that a person's attitudes determine behavioral intention (Ajzen, 2002); (Roeckelein, 2006).

As per the Technology Acceptance Model (TAM) which is also based on TBB, it has been useful to examine and explain why users might adopt particular information technologies and TAM theorized that usage of an information system depends on a system user's behavioural intention to use the system (Venkatesh et al., 2003; Venkatesh et al., 2016). Given that the UTAUT model has used the theory of planned behaviour as its underlying main base theory, the behavioural intention is thus assumed to be the immediate antecedent of technology used behavior which is the fundamental concept of the wealth of technology user acceptance literature (Baron & Kenny, 1986; Davis, 1989; Venkatesh & Davis, 2000; Roeckelein, 2006; Venkatesh et al., 2012; Venkatesh et al., 2016; Perera & Abeysekara, 2019). Therefore, in this study context, as the behavioral intention to use the human capital management systems increases, the human capital management systems user is more likely to use the human capital management systems. Thus, it is assumed that employees' attitudes like performance expectancy, social influence and effort expectancy are particularly relevant to organizations in to reducing the likelihood of implementation failure, as the human capital management system users determine the behavioural intention to use HCM which leads to actual human capital management systems use behaviour.

Transformational leadership

“An understanding of the interplay between transformational leadership and organizational performance is an important factor for developing effective organizations. Finding ways to optimize the performance of people and hence, the organization has been, and continues to be, a major concern for organizational leaders” (Shyanka, Abeysekera & Rajapakse, 2014, p. 383). As Roeckelein (2006, p. 351) remarked, “Leadership theorists have begun increasingly to study the cognitive processes inherent in leadership situations”. This is because leadership presence is related to the success of the implementation of an organizational change which is further validated with the studies done by Burns, 1978; Bass, 1985; Kirkpatrick, 1985 and Yukl, 1994 as cited evidence in Fisher and Howell (2004). According to Weick, (1990) as cited by Fisher and Howell (2004) human capital of an organization perceives the changes in the organizational environment such as a new computer system by creating interpretations of it through a sense making process. Further, if the employees make inferences about a system in a negative manner maybe due to misguided information received, the organization has to face challenges in improving the employee reactions. This is further emphasized as Roeckelein (2006, p. 351) note: “Leadership theory and research is likely to continue in the study of both noncognitive and cognitive variables in the leader-member relationship, as well as show increasing interest in the role of task characteristics in the determination of effective group and member performance”.

“Transformational leaders broaden and change the interests of their followers and generate awareness and acceptance of the purposes and mission of the group. They stir their followers to look beyond their self-interest for the benefit of the group” (Abeysekera & Wickramasinghe, 2012b, p.137). In line with this view, Bass (1985) defines transformational leadership as the one who motivates followers to do more than they are initially expected to do by providing vision and a strong ideology an inspiration created for the follower to perform as a result of an emotional attachment with the transformational leader according to Mosley (1998) as cited from Abeysekera and Wickramasinghe (2012). According to a study conducted (Neufeld et al., 2007), it is stated that leader behaviours may substantially influence employees' innovation implementation behaviour (Michaelis, Stegmaier, & Sonntag, 2009) and in this context, it can be interpreted as the behaviour towards the information system which deals with the human capital management or the HCM usage. As per Neufeld et al. (2007), the findings showed that the influence of a leader's inspirational motivation and idealized influence, which are two main characteristics of a transformational leader on behavioural intention mediated by three of the four UTAUT variables namely, effort expectancy, social

influence and performance expectancy which are the underlying attitudes of the theory of planned behaviour (TPB) (Baron & Kenny, 1986; Venkatesh et al., 2016; Perera & Abeysekara, 2019).

Bass's (1985) theory, which is "the full-range leadership theory", is considered to be the flagship theory towards the transformational leadership movement (Antonakis, 2012) where the theory predicts that followers are able to reach ambitious goals, while demonstrating utmost confidence in the followers, who are motivated in reaching the expected standards of performance beyond normal expectations towards positive outcomes. This enhanced concentration on positive outcomes of the change-initiative or else the transformation of the users' attitudes towards HCM, should lead to high levels of affective commitment to change or in other words, behavioural intention to use the new technology system (Fisher & Howell, 2004; Neufeld et al., 2007; Venkatesh et al., 2012; Venkatesh et al., 2016; Perera & Abeysekara, 2019).

Conceptual Model and Hypotheses

Transformational Leadership and Performance Expectancy

"Performance expectancy is defined as the degree to which an individual believes that using the system will help him or her to attain gains in job performance" (Venkatesh et al., 2003, p. 447). In developing this construct five constructs from various validated models on technology acceptance and use related models were amalgamated by Venkatesh et al. (2003). As per Antonakis (2012) the emotional interaction between followers and the transformational leader arouses the followers' motives to accomplish the leader's intentions for transformation of followers' values and attitudes. Thus, in line with this phenomenon, Neufeld et al. (2007) revealed that the followers who experienced the transformational characteristics of the leader such as inspirational Motivation and Idealized Influence behaviors also expressed higher levels of Performance Expectancy levels. Therefore, the following hypothesis is the proposed for the constructed conceptual model of the study.

H1: Transformational Leadership has a positive impact on Human Capital Management Systems Users' Performance Expectancy.

Transformational Leadership and Social Influence

"Social influence is defined as the degree to which an individual perceives that important others believe he or she should use the new system". (Venkatesh et al., 2003, p.451) which is a direct determinant of behavioral intention is represented as subjective norm (Ajzen, 2002; Venkatesh, et al., 2003; Thompson, Higgins & Howell., 1991) used the term social norms in defining their construct, and acknowledge its similarity to subjective norm within TRA. Thus, in line with this phenomenon, Neufeld et al. (2007) revealed that the followers who experienced the transformational characteristics of the leader such as Idealized Influence behaviors also expressed higher levels of Social Influence mainly the perceived norms which represents the subjective norm of the TPB as well. Therefore, the following hypothesis is the proposed for the constructed conceptual model of the study.

H2: Transformational Leadership has a positive impact on Human Capital Management Systems Users' Social Influence.

Transformational Leadership and Effort Expectancy

Effort Expectancy is defined as "the degree of ease associated with the use of the System" (Venkatesh, et al., 2003, p.450). In developing this construct three constructs from different models were amalgamated by the researchers namely, perceived ease of use, complexity and ease of use as per Venkatesh, et al. (2003). According to Antonakis (2012) the followers are inspired and excited by the transformational qualities of the leader along with the ideology of the fact that the followers may be able to accomplish greater targets by putting an extra effort. In terms of the leadership influence it is revealed that the users who have perceived that their leader has shown Inspirational Motivation and Idealized Influence behaviors had also shown higher levels of Effort Expectancy specially in perceived usefulness (Neufeld et al., 2007, Perera & Abeysekara, 2019). Therefore, the following hypothesis is the proposed for the constructed conceptual model of the study.

H3: Transformational Leadership has a positive impact on Human Capital Management Systems Users' Effort Expectancy.

Performance Expectancy and Behavioral Intention to Use Human Capital Management Systems

Venkatesh et al. (2003) identified that the Performance Expectancy construct as the strongest predictor of intention which is also consistent with previous research (Venkatesh & Davis, 2000). Perceived usefulness (Davis, 1989; Davis et al., 1989) is the degree to which a person believes that using a particular system would enhance his or her job performance and Extrinsic Motivation (Davis et al., 1992) is the perception that the users will want to perform an activity because it is perceived to be instrumental in achieving valued outcomes that are distinct from the activity itself, such as improved job performance, pay or performance. Perceived usefulness and Extrinsic Motivation are main components which were involved in building the Performance Expectancy construct by Venkatesh et al. (2003). According to UTAUT, Performance Expectancy found to influence Behavioral Intention to Use a Technology (Venkatesh et al., 2003; Neufeld et al., 2007; Venkatesh et al., 2012; Venkatesh et al., 2016; Perera & Abeysekara, 2019). Therefore, the following hypothesis is the proposed for the constructed conceptual model of the study.

H4: Human Capital Management Systems Users' Performance Expectancy has a positive impact on Behavioural Intention to Use Human Capital Management Systems.

Social Influence and Behavioral Intention to use Human Capital Management Systems

Subjective norm is the person's perception that most people who are important to him think he should or should not perform the behaviour in question therefore one's image was used as a main component in construction of the Social Influence (Venkatesh et al., 2016; Perera & Abeysekara, 2019). The image is identified as the degree to which use of an innovation is perceived to enhance one's status in one's social system (Moore & Benbasat, 1991). Thompson et al. (1991) as cited evidence by Venkatesh et al. (2016) used the term social norms in defining their construct, and acknowledge its similarity to subjective norm within the theory of reasoned action and explained as the individual's internalization of the reference group's subjective culture and specific interpersonal agreements that the individual has made with others, in specific social situations. According to UTAUT, Social Influence found to influence Behavioral Intention to Use a technology (Venkatesh et al., 2003; Neufeld et al., 2007; Venkatesh et al., 2012; Venkatesh et al., 2016; Perera & Abeysekara, 2019). Therefore, the following hypothesis is the proposed for the constructed conceptual model of the study.

H5: Human Capital Management Systems Users' Social Influence has a positive impact on Behavioral Intention to use Human Capital Management Systems.

Effort Expectancy and Behavioral Intention to use Human Capital Management Systems

Perceived Ease of Use (Davis, 1989) is the degree to which a person believes that using a system would be free of effort and the complexity (Thompson et al., 1991) is the degree to which a system is perceived as relatively difficult to understand and use. The Ease of Use is also defined by (Moore and Benbast, 1991) as the degree to which using an innovation is perceived being difficult to use. These concepts were the root components which were used in constructing the Effort Expectancy construct by (Venkatesh et al. (2003) in their study which found out a relationship among Effort Expectancy and Behavioral Intention to Use technology. According to UTAUT, Effort Expectancy found to influence Behavioral Intention to Use a Technology (Venkatesh et al., 2003; Neufeld et al., 2007; Venkatesh et al., 2012; Venkatesh et al., 2016; Perera & Abeysekara, 2019). Therefore, the following hypothesis is the proposed for the constructed conceptual model of the study.

H6: Human Capital Management Systems Users' Effort Expectancy has a positive impact on Behavioral Intention to use Human Capital Management Systems.

Transformational Leadership and Behavioural Intention to Use Human Capital Management Systems

Theories of Transformational Leadership emphasize emotional effects as emotional attachment to the leader by the followers where emotional and motivational arousal of the followers articulated. The charisma or the Idealized Influence of the Transformational Leader is altering the follower's self-esteem, trust, and confidence in the leader which intern influences follower values and follower intrinsic motivation (Shamir, House, & Arthur, 1993; Neufeld

et al., 2007; Perera & Abeysekara, 2019). In a different contextual study on relationship between Idealized Influence and Behavioural Intention using the TPB has revealed that charisma as a way of attractive driving force for adults to generate strong learning intentions for the determinant of Behavioural Intention in the Theory of Reasoned Action (Ajzen, 2002). Therefore, the following hypothesis is the proposed for the constructed conceptual model of the study.

H7: Transformational Leadership positively impacts on Behavioural Intention to use Human Capital Management Systems.

Performance Expectancy, Social Influence and Effort Expectancy of the Human Capital Management Systems Users, Transformational Leadership and Behavioural Intention to use Human Capital Management Systems

The Theory of Planned Behaviour or its predecessor, the Theory of Reasoned Action, provided strong evidence that a person's attitudes determine Behavioral Intention and the Unified Theory of Acceptance and Use of Technology (UTAUT) is based on the Theory of Planned Behaviour as well. According to the study conducted by Neufeld et al. (2007) the findings showed that the followers who experienced the transformational characteristics of the leader such as inspirational Motivation and Idealized Influence behaviors also expressed higher levels of Effort Expectancy, the Social Influence and the Performance Expectancy attitudes which determine Behavioral Intention to Use technology (Neufeld et al., 2007; Perera & Abeysekara, 2019). Further it was revealed that the leadership impact on the Behavioral Intention to Use technology was mediated by three of the four UTAUT variables which are namely, Effort Expectancy, the Social Influence and the Performance Expectancy of which represent the underlying attitudes of the Theory of Planned Behaviour (TPB) by Ajzen Venkatesh et al., 2003; Neufeld et al., 2007; Venkatesh et al., 2016; Perera & Abeysekara, 2019).

It is mentioned that if Effort Expectancy is not present in the model the Facilitating Conditions to become predictive of intention can be considered (Venkatesh et al., 2003; Venkatesh et al., 2016; Perera & Abeysekara, 2019) and as the Effort Expectancy is present in the base UTAUT model Facilitating Conditions is non-significant in predicting the Behavioural Intention. As it was revealed that the attributions of Transformational Leadership were enacted 'through' Direct Determinants of User Acceptance of the UTAUT model in terms of IT project implementation (Neufeld et al., 2007; Perera & Abeysekara, 2019). Therefore, the following hypothesis is the proposed for the constructed conceptual model of the study.

H8: Performance Expectancy, Social Influence and Effort Expectancy of the HCM Users Mediates the positive impact between Transformational Leadership and Behavioural Intention to use Human Capital Management Systems.

By developing a coherent model on technology acceptance and use with Transformational Leadership along with the Direct Determinants of UTAUT User Acceptance and Behavioural Intention concepts this would fill in the theoretical gaps in the multidisciplinary management literature in terms of Human Capital Management Systems along with the role of Transformational Leadership influence on those concepts.

In answering the research question identified, this concept paper suggests a conceptual model which incorporates the Transformational Leadership impact on information systems specifically, direct determinants of Human Capital Management Systems User Acceptance and Behavioral Intention Use the Human Capital Management Systems related concepts. The Unified Theory of Technology Acceptance and Use of Technology Model (UTAUT) and the Transformational Leadership Theory provides the theoretical base in conceptualizing the proposed model. Therefore, the proposed conceptual model suggests that Transformational Leadership have positive impact among the UTAUT model's information system technology user behaviour related variables which can be integrated towards arriving at a coherent conceptual model.

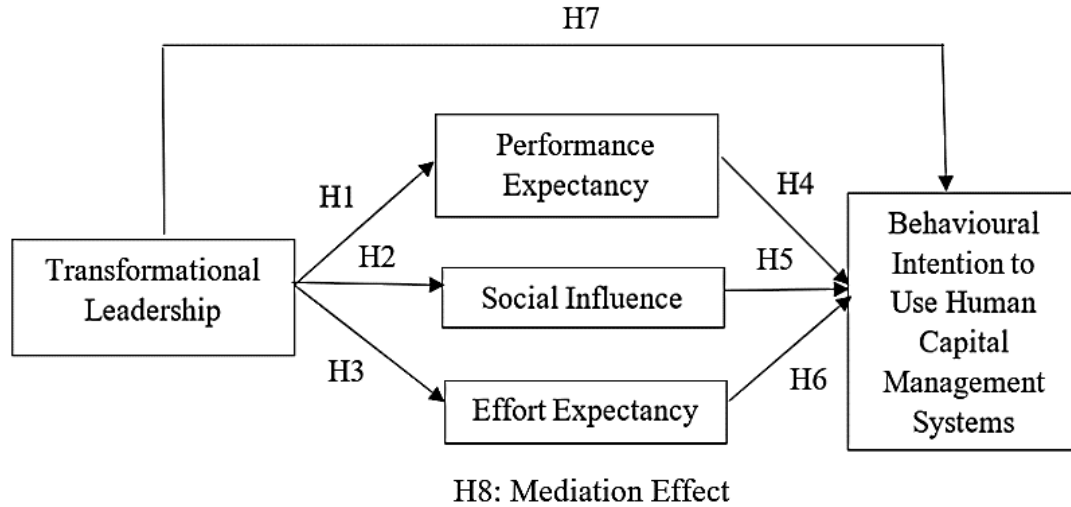


Figure 1: Conceptual Model

Source: Author Constructed

It is hypothesized that the improved information systems use behaviour can be attained through the influence of Transformational Leadership on the attitudes of the system users. This study shows the existing vacuum in explaining the Human Capital Management Systems user acceptance and behaviour and the impact of Transformational Leadership on the UTAUT constructs. This is because these constructs have not been previously studied together and there is a dearth of literature and research in examining these factors in a single platform. Therefore, as a consequence this proposed study will contribute towards predicting Behavioural Intention to use Human Capital Management Systems Technology (HCM) through UTAUT constructs collectively acting as mediator for the impact of Transformational Leadership.

From a management perspective, the findings of this study would help the top and middle level managers to establish policies and practices which enhance transformational leadership involvement. The proposed study also provides a significant contribution towards improving the organizational decision making on improving the utilization of information systems from the user acceptance perspective and this will enable the organizations to deploy research findings in improving the gains from technology investments on human capital management systems. This would convince the human capital managers the importance of transformational leadership on the followers or the subordinates behavioural changes in achieving organizational goals and objectives. The proposed study will ultimately contribute towards the improved human capital management systems utilization which will lead to higher returns of the technology investment incurred by organizations in deriving competitive advantages.

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AGRICULTURE-LED GROWTH IN SOUTH ASIA COUNTRIES AND THE EFFECTS OF MACROECONOMIC VARIABLES ON ECONOMIC DEVELOPMENT

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Abstract

This paper adopts an empirical approach, concentrating on the influence of agriculture and macroeconomic variables on economic development in South Asian countries. Given the historical significance of agriculture in the region, this study explores its substantial impact on economic development. To substantiate these observations empirically, the research analyzes the long-run relationship between key time-series variables. Co-integration and error correction models are applied individually for each country, utilizing annual agricultural and economic data sourced from FAO and World Bank statistics spanning the period 1990-2020. Despite some skepticism regarding agriculture's contribution to economic growth, the findings indicate a demonstrable long-run relationship between economic growth and agricultural production in the majority of South Asian economies. Consequently, the results bear crucial implications for both agricultural and economic policy considerations.

Keywords: Agriculture, Macroeconomic indicators, Economic development, South Asia, Long-run relationship

Introduction

Agriculture holds a central position in the economies of South Asian countries. Intensive agricultural practices in this region have emerged as a consequence of the Green Revolution (Atapattu and Kodituwakku, 2009). In nations where agricultural employment constitutes a substantial portion of the labor force, the progress of the agricultural sector is vital for overall economic growth (Oyakhilomen and Zibah, 2014). Throughout various Asian nations, growth driven by agriculture has played a crucial role in poverty reduction and economic transformation (Diao et al., 2010). The development of agriculture has led to an augmentation of food supplies (Johnston and Mellor, 1961). However, developing countries have faced challenges such as rapid population growth, climatic uncertainties, and economic obstacles that have not been conducive to the agricultural sector. The agricultural landscape in the region has been significantly influenced by factors such as price policies, infrastructure development, urbanization, and technological advancements (Joshi et al., 2003). The expansion of the agricultural sector not only increases food supplies but also contributes to poverty reduction and the transformation of primary industries into secondary and service sectors.

South Asian countries share a common economic structure characterized by a prominent public sector and a nationalized financial sector (Mallika and Chowdhury, 2001). Agricultural production plays a pivotal role in the economic development of these nations (Awokuse and Xie, 2015). Despite economic growth being observed in most South Asian countries in recent years, the majority of this growth has been driven by India (World 101). The current study aims to fill gaps in the existing empirical literature by investigating the relationship between agricultural production and economic growth in South Asian countries.

A comprehensive understanding of this relationship is crucial for formulating effective economic and agricultural policies that can foster regional economic growth. Furthermore, insights from this research can assist policymakers in allocating resources more effectively by recognizing the role of investments in agriculture (Awokuse and Xie, 2015). The objective of the current study is to empirically examine the long-run and short-run relations between economic growth and agricultural production in the South Asian region, utilizing the autoregressive

distributed lag (ARDL) bounds testing approach. Time-series data for South Asian countries, including Sri Lanka, Bangladesh, Bhutan, India, Maldives, Nepal, and Pakistan, were employed to assess agriculture's impact on economic growth.

Literature Review

The impact of agriculture on economic growth in developing countries has been a subject of considerable interest among economists. While numerous studies have delineated the theoretical connection between agriculture and economic growth, the causal impact remains a crucial aspect warranting further investigation. An early study by Johnston and Mellor (1961) delves into the role of agriculture in economic development through intersectoral linkages. Awokuse and Xie (2015) examine the role of agriculture in promoting economic growth in nine developing countries across Asia (China, Indonesia, and Thailand), Latin America (Brazil, Chile, and Mexico), and Sub-Saharan Africa (Cameroon, Kenya, and South Africa). The findings suggest that agriculture could serve as an engine of economic growth, although the impacts vary among countries, supporting the argument of the agriculture-led growth hypothesis.

Recent studies present mixed results on the effect of agriculture on economic growth. Some researchers argue that agricultural development is a prerequisite for industrialization and overall economic growth. Schultz (1964) and Gollin, Parente, and Rogerson (2002) support the notion that economic growth hinges on the development of the agricultural sector. Gollin, Parente, and Rogerson (2002) further contend that the growth in agricultural productivity is pivotal to economic development and can substantially delay industrialization. Oyinbo and Rekwot (2014) reveal a causal relationship between economic growth and agriculture, modernizing the economic system in Nigeria. In certain countries, the agricultural sector is the primary contributor to economic development due to its centrality in people's livelihoods (Dube et al., 2019). Additionally, poor agricultural technologies can hinder economic growth, and improvements in agricultural productivity can positively impact income.

In contrast to agricultural development and economic growth, Diao et al. (2010) find little evidence of economic transformation and agricultural development in African countries, unlike in Asian nations. Gardner (2003) confirms this finding using a cross-sectional panel of 52 developing countries. Ashley and Maxwell (2001) suggest that rural populations should focus on income diversification away from agriculture, although this strategy may not be positive if driven by stagnant agricultural growth (Haggblade, Hazell, and Reardon, 2002). However, Tiffin and Irz (2006) find strong evidence of causality between agricultural value added and general economic growth using Granger-causality tests, consistent with the agricultural productivity paradigm and economic growth.

Chebbi (2010) employs Johansen's multivariate approach to study the cointegration of different sectors of the Tunisian economy, emphasizing the non-causal relationship between agriculture and economic growth. The results suggest that Tunisian economic sectors cointegrate, and agriculture seems to partially drive the growth of other sectors. In a comprehensive study, Tsakok and Gardner (2007) discuss methodological issues in assessing the relationship between agriculture and economic growth, exploring two polar views: the necessity of agricultural development for economic growth versus bypassing agricultural development and investing in building an industrial base.

The present study evaluates the role of agricultural production in the economic growth process in South Asian countries, where agriculture holds a central position in the economy. This paper aims to provide evidence regarding the existence of a long-run relationship between agricultural production and the economic growth rate. To estimate this relationship, the study applies cointegration tests and a vector error correlation model, controlling for essential macroeconomic variables such as inflation, exchange rate, foreign direct investment (net inflows), and the growth rate of broad money (M3). Through time series analysis, this research examines whether the development of agriculture should be an effective macroeconomic policy in South Asian countries. To our knowledge, this study marks the first attempt to investigate the role of agriculture in economic development in the South Asian economies after significant economic turmoil in the region.

Table 1: Summary statistics

Country	Variables	Mean	Standard Dev.	Min.	Max.
Sri Lanka	Economic growth (%)	7.90	7.09	-4.52	25.85
	Agricultural production (1000 US\$)	3,925,600.00	772,128.90	3,035,596.00	5,999,018.00
	Exchange rate	102.88	44.20	40.06	198.76
	Inflation rate	8.89	4.95	2.14	22.56
	Foreign Direct Investment net inflows (% of GDP)	1.19	0.50	0.43	2.85
	Broad Money Growth (annual %)	17.69	7.92	8.32	49.98
Bangladesh	Economic growth (%)	8.53	5.24	-0.08	21.42
	Agricultural production (1000 US\$)	15,800,000.00	5,021,078.00	9,450,046.00	24,200,000.00
	Exchange rate	62.23	16.911	34.57	85.08
	Inflation rate	6.010	2.21	2.01	11.40
	Foreign Direct Investment net inflows (% of GDP)	0.61	0.51	0.01	1.74
	Broad Money Growth (annual %)	15.62	5.96	9.74	43.00
Bhutan	Economic growth (%)	8.02	9.29	-14.79	33.52
	Agricultural production (1000 US\$)	370,660.70	39,666.03	283,036.00	443,445.00
	Exchange rate	47.52	14.87	17.50	74.10
	Inflation rate	6.77	3.26	2.46	15.98
	Foreign Direct Investment net inflows (% of GDP)	0.97	1.50	-0.68	6.32
	Broad Money Growth (annual %)	18.78	12.54	3.75	58.94
India	Economic growth (%)	7.57	8.45	-11.53	26.95
	Agricultural production (1000 US\$)	255,000,000.00	70,400,000.00	164,000,000.00	388,000,000.00
	Exchange rate	47.52	14.87	17.50	74.10
	Inflation rate	7.20	3.14	3.33	13.87
	Foreign Direct Investment net inflows (% of GDP)	1.26	0.85	0.03	3.63
	Broad Money Growth (annual %)	15.36	3.83	6.80	22.27
Maldives	Economic growth (%)	9.77	10.93	-33.26	35.40
	Agricultural production (1000 US\$)	17,368.00	10,508.71	3,305.00	48,391.00
	Exchange rate	13.10	1.80	9.55	15.39
	Inflation rate	4.55	5.58	-1.69	20.13
	Foreign Direct Investment net inflows (% of GDP)	6.12	4.18	1.81	17.13
	Broad Money Growth (annual %)	16.00	8.72	-0.18	35.90

Country	Variables	Mean	Standard Dev.	Min.	Max.
Nepal	Economic growth (%)	7.78	8.16	-8.24	29.52
	Agricultural production (1000 US\$)	6,040,716.00	1,833,526.00	3,631,993.00	9,431,589.00
	Exchange rate	76.10	23.57	29.37	118.35
	Inflation rate	7.33	3.55	2.27	17.15
	Foreign Direct Investment net inflows (% of GDP)	0.22	0.22	-0.10	0.68
	Broad Money Growth (annual %)	18.09	7.04	2.66	38.84
Pakistan	Economic growth (%)	5.75	7.40	-10.93	21.30
	Agricultural production (1000 US\$)	33,700,000.00	8,528,844.00	20,700,000.00	48,400,000.00
	Exchange rate	72.93	39.30	21.71	162.91
	Inflation rate	8.49	3.95	2.53	20.29
	Foreign Direct Investment net inflows (% of GDP)	1.05	0.81	0.38	3.67
	Broad Money Growth (annual %)	15.66	6.96	4.31	42.91

Sources: Agricultural Production is from Food and Agriculture Organization Statistics. Economic Growth, Exchange Rate, Inflation Rate, Foreign Direct Investment, and Broad Money Growth is from World Bank Open Data.

Data

Data from South Asian countries, namely Sri Lanka, Bangladesh, Bhutan, India, Maldives, Nepal, and Pakistan, have been utilized to evaluate the impact of agricultural production on economic growth. The study leverages time series data covering the period from 1990 to 2020, encompassing variables such as agricultural production, economic growth rate, exchange rate, inflation, foreign direct investments, and broad money growth. The Food and Agriculture Organization statistics (FAO STAT) serve as the data source for agricultural production, while data on Economic Growth, Exchange Rate, Inflation Rate, Foreign Direct Investment (Net inflow, % of GDP), and Broad Money Growth are sourced from the World Bank Open Data. Table 1 provides a summary of the statistical characteristics of the variables employed in this study.

Methodology: Autogressive Distributed Lag Model (ARDL) with Bounds Test:

The Autoregressive Distributed Lag (ARDL) model is employed to examine both long-run and short-run relationships within economic time series. The autoregressive model typically includes lagged values of the dependent variable, and as a result, using Ordinary Least Squares (OLS) techniques can lead to biased coefficient estimation. In cases where the error term is correlated, OLS estimates become inconsistent (Giles, 2013). Notably, the ARDL approach can be applied to series regardless of their order of integration, whether they are I(0), I(1), or mutually cointegrated (Sari, Ewing, Soytaş, 2008).

The integration of the error correction term into the ARDL model allows for the estimation of long-run effects between variables. Moreover, the ARDL model demonstrates greater effectiveness in estimating small samples compared to other time series methodologies (Pesaran and Shin 1999; Latif et al., 2015). Nkoro and Uko (2016) ascertain that the ARDL model maintains its robustness even in situations with a small sample size when a single long-run relationship between variables exists.

Bounds test for long-run relationships

Several conventional approaches exist for testing the presence of long-run relationships. The Engle and Granger (1987) approach, the maximum likelihood-based Johansen and Juselius (1990) method, and the Phillips and

Hansen (1990) fully modified OLS estimator are among the techniques employed to estimate long-run relationships (Muhammad and Faridul, 2011). The ARDL bounds testing methodology, introduced by Pesaran and Shin (1999) and further developed by Pesaran et al. (2001), has gained popularity due to its advantages over traditional cointegration testing methods (Giles, 2013). The ARDL bounds testing approach is particularly well-suited for small sample sizes (Haug, 2002; Muhammad and Faridul, 2011).

To examine both long-run and short-run relationships, the unrestricted error correction method (UECM) is employed. The modification of the order of the ARDL model is appropriately conducted to simultaneously address residual serial correlation, as proposed by Pesaran and Shin (1999).

$$\begin{aligned} \Delta \ln EGR_{it} = & \alpha + \sum_{k=1}^p \delta_1 \Delta \ln EGR_{i(t-k)} + \sum_{k=0}^q \delta_2 \Delta \ln AGP_{i(t-k)} + \sum_{k=0}^q \delta_3 \Delta \ln EXGR_{i(t-k)} + \\ & \sum_{k=0}^q \delta_4 \Delta \ln IF_{i(t-k)} + \sum_{k=0}^q \delta_5 \Delta FDI_{i(t-k)} + \sum_{k=0}^q \delta_6 \Delta MGP_{i(t-k)} + \gamma_1 \ln EGR_{i(t-k)} + \gamma_2 \ln AGP_{i(t-k)} + \\ & \gamma_3 \ln EXGR_{i(t-k)} + \gamma_4 \ln IF_{i(t-k)} + \gamma_5 FDI_{i(t-k)} + \gamma_6 MGP_{i(t-k)} + \varepsilon_{it} \end{aligned} \quad (1)$$

where: *EGR* is the economic growth, *AGP* is the agricultural production, *EXGR* is the exchange rate, *IF* is the inflation rate, *FDI* is foreign direct investment and *MGP* is broad money growth. *i* denotes the country, *t* represents the time, *k* is the number of time lags (annual). *p* and *q* are the maximum number of dependent and independent variable lags respectively. The optimal lag length can be selected using BIC values. Δ indicates the first difference of the variables and *ln* indicates the natural logarithm. Exchange rate, inflation rate, foreign direct investment and broad money growth are the indicators that determine the economy growth.

To determine the order of the series, augmented Dickey-Fuller (ADF) and Phillips Perron (PP) tests are used. Although the ADF test is widely used in time-series data analysis, it is affected by serial correlation (DeJong et al., 1992). The results of unit root test can be found in the appendix. The δ s refer to the short-run relationship and γ s to the long-run relationships. The null hypothesis of no cointegration is: $\gamma_1 = \gamma_2 = \gamma_3 = \gamma_4 = \gamma_5 = \gamma_6 = 0$. The alternate hypothesis is: $\gamma_1 \neq \gamma_2 \neq \gamma_3 \neq \gamma_4 \neq \gamma_5 \neq \gamma_6 \neq 0$. If the calculated F-statistics exceed the upper bound critical value, the null hypothesis of no cointegration is rejected. If it is below the lower bound, then the null cannot be rejected. If the calculated F-statistics fall between the lower and upper bound, then cointegration is inconclusive.

Empirical Results and Discussion

Unit Root and Bounds Tests:

This section outlines the estimation of an ARDL model as given in Equation (1). The ADF and PP unit root test statistics results are presented in Appendix Table A1 and A2. These tests indicate that all variables are nonstationary in levels but become stationary after taking the first difference. While the ARDL approach does not necessitate testing for the stationarity of time-series, higher-order integration (i.e., I(2) or more) may yield unreliable estimates when using the ARDL model (Ouattara, 2004). Therefore, unit root testing confirms the appropriateness of the ARDL model for South Asian economic time-series data.

The F-statistics results for the bounds testing are detailed in Table 2. For all countries in the South Asian region, except Bhutan, the F-statistics fall outside the upper bound and are statistically significant at the 5% level. These results imply the presence of a long-run relationship between agricultural production and economic growth. If such long-run relationships exist, information on agricultural production can be utilized to predict economic growth.

Table 2: ARDL bound test for cointegration

Country	Computed F-statistics	Lower bound value	Upper bound value	Decision
Sri Lanka	11.737	3.420	5.053	Reject the null
Bangladesh	13.166	3.261	4.805	Reject the null
Bhutan	5.817	4.066	5.995	Cannot reject the null
India	7.489	3.493	5.207	Reject the null
Maldives	8.095	3.867	5.669	Reject the null
Nepal	10.679	3.970	5.816	Reject the null
Pakistan	11.405	3.943	5.824	Reject the null

Note: Lower and upper values on ARDL bounds test are calculated by the critical value at 5% significant level.

Table 3: Estimated Long Run and Short Run Relationships

	$\Delta \ln_{\text{economic growth rate}}$	Sri Lanka	Bangladesh	Bhutan	India	Maldives	Nepal	Pakistan
LR	$\ln_{\text{ag_production}}$	-1.633 (1.170)	-1.553 (1.338)	3.148 (1.697)	-0.377 (2.270)	-1.652** (0.565)	8.800* (1.215)	6.074** (2.532)
	$\ln_{\text{exchange_rate}}$	0.519 (0.418)	3.566* (1.772)	-1.241 (1.218)	-0.756 (2.588)	-1.585 (2.933)	-10.077* (1.268)	-3.311** (1.262)
	$\ln_{\text{inflation}}$	1.030*** (0.256)	0.537** (0.195)	0.067 (0.556)	0.435 (0.649)	0.182 (0.290)	-1.084* (0.206)	1.049*** (0.313)
	$\ln_{\text{foreign_DI}}$	0.000 (0.235)	-0.218** (0.083)	-0.583** (0.198)	0.330 (0.338)	-0.629 (0.506)	-0.124 (0.094)	-0.318 (0.227)
	$\ln_{\text{broad_money growth_percent}}$	0.526* (0.263)	0.375 (0.341)	-0.155 (0.244)	-0.540 (0.543)	1.782* (0.979)	-0.560 (0.438)	0.514 (0.381)
SR	$\Delta \ln_{\text{ag_production}}$	-1.616 (1.204)	-1.638 (1.350)	3.971 (2.237)	-0.285 (1.719)	-1.666* (0.742)	-4.079 (3.650)	5.479** (1.983)
	$\Delta \ln_{\text{exchange_rate}}$	-9.303*** (2.386)	-6.930** (2.598)	-23.744*** (3.772)	-14.063*** (1.812)	-12.326* (5.921)	-8.422 (3.826)	-28.539*** (4.190)
	$\Delta \ln_{\text{inflation}}$	1.019*** (0.218)	0.566** (0.199)	0.085 (0.699)	-0.347 (0.379)	0.456 (0.309)	-1.355* (0.239)	0.946*** (0.261)
	$\Delta \ln_{\text{foreign_DI}}$	0.000 (0.233)	-0.230** (0.083)	-0.735** (0.292)	0.257 (0.261)	0.892 (0.689)	0.011 (0.079)	-0.287 (0.204)
	$\Delta \ln_{\text{broad_money growth_percent}}$	0.521* (0.268)	0.395 (0.353)	-0.195 (0.319)	-0.419 (0.425)	0.549 (0.668)	-0.700 (0.517)	0.463 (0.381)
	Cons	21.027 (17.129)	11.795 (15.722)	-41.767 (25.873)	10.160 (25.537)	17.914* (11.065)	-109.899* (24.265)	-83.113** (30.895)
	Error correction term	-0.990*** (0.146)	-1.055*** (0.142)	-1.14395 (0.222)	-0.777*** (0.177)	-1.009*** (0.219)	-1.250* (0.107)	-0.902*** (0.152)
R^2	0.86	0.83	0.995	0.91	0.92	0.99	0.89	

Note: ***, **, and * denote the 1%, 5%, and 10% significant levels, respectively. Standard errors are presented in the numbers in parentheses.

Long-run relationships

The results of the estimated long-run relationships among variables are detailed in Table 3. According to the ARDL model, Nepal exhibits the highest recorded economic growth associated with agricultural production. Specifically, a 1% increase in Nepal's agricultural production leads to an average 8.8% increase in economic growth, all else being equal. Pakistan follows as the second-largest contributor to economic growth through agricultural production compared to other South Asian countries. In contrast, Maldives displays an inverse relationship between agricultural production and economic growth. One plausible explanation is the geographical constraint of being an island, making it challenging to expand the scale of the agricultural economy to support its population. Consequently, Maldives relies on importing agricultural products from foreign countries, weakening its domestic agriculture industry.

For Sri Lanka, Bangladesh, and Pakistan, the inflation rate is positively correlated with economic growth. However, in Nepal, inflation is negatively related. The relationship between inflation and economic growth remains contentious both in theory and empirical analysis (Mallika and Chowdhury, 2001). Studies involving 70 countries from 1960 to 1989 found no causal relationship between inflation and economic growth in 40% of the countries (Paul et al., 1997). Furthermore, some studies report a positive relationship, while others find a negative correlation between inflation and economic growth (Barro, 1996; Bruno and Easterly, 1998; Fischer, 1993). In essence, the relationship between inflation and economic growth appears inconclusive.

The exchange rate, representing a currency peg, is explored in connection with economic growth. Developing countries often fix their exchange rates to another country's currency (e.g., the U.S. dollar) to reduce exchange rate risk and promote economies through trade. The results indicate that only Bangladesh experiences a positive impact of the exchange rate on economic development, while Nepal and Pakistan undergo significant depreciation, hindering economic growth.

Foreign direct investment (FDI) is commonly believed to have a positive impact on economic growth (Athukorala, 2003). However, our findings reveal that Bangladesh and Bhutan's economic performances are negatively affected by FDI, consistent with the dependency theory suggesting that nations heavily reliant on FDI may experience negative impacts on economic growth (Saqib et al., 2013). Additionally, prior literature indicates a significant negative effect of FDI on the host country in the long run (Hermes and Lensink, 2003; Kogid et al., 2010), warranting further research to understand why these economies exhibit adverse effects from FDI, although this inquiry extends beyond the scope of the current study.

The broad money growth rate, indicating liquidity in a country, shows a positive and significant long-run relationship with economic growth in Sri Lanka and Maldives. Enhanced liquidity from broad money is expected to stimulate private sector investment, thereby accelerating economic growth (Rana and Barua, 2015). However, the insignificant broad money growth rate in other countries suggests a need for proper channeling of funds into the economy for economic activities (Rana and Barua, 2015). Notably, none of the variables are statistically significant in the Indian economy, a finding that may warrant further investigation.

Short-run relationships

In the short run, an increase in the exchange rate appears to be associated with decreased economic growth in most countries in the South Asian region. Additionally, the inflation rate is positively linked with economic growth in Sri Lanka, Bangladesh, and Pakistan. Notably, foreign direct investment is inversely correlated with economic growth for Bangladesh and Bhutan.

The error correction term serves as an indicator of the speed of adjustment to restore long-run equilibrium in the dynamic economic growth model for the South Asian region. As anticipated, we expect a negative and significant sign for the error correction term, as shown in Table 3. The coefficient of the error correction term provides insight into how quickly variables converge to equilibrium.

Conclusions

Even though the South Asian region's economy is predominantly based on agricultural production, the performance varies significantly from country to country. Many South Asian economies have undergone economic reforms, driven mainly by trade liberalization and globalization (Joshi et al., 2003). This study reveals that only Nepal and Pakistan possess a robust agricultural production sector supporting their long-term economic growth. As highlighted by Johnston and Mellor (1961), agriculture contributes to economic growth through increased demand for agricultural products, expanded agricultural exports, capital for investment, rising net cash incomes, and the transfer of labor from agriculture to non-agricultural sectors. These findings suggest potential implications for Nepal's and Pakistan's agricultural policies, emphasizing the importance of stimulating growth and development through agricultural expansion, along with investments in agricultural research and extension programs.

On the contrary, there is limited evidence supporting the notion that the economic growth of Sri Lanka, Bhutan, Bangladesh, Maldives, and India is significantly dependent on agricultural production. Factors such as the influx of subsidized cheap products through imports, slow technological advances in staple crops, and declining investment in agriculture seem to have a notable impact on the diminishing role of agricultural production in driving economic growth in these countries (Joshi et al., 2003). Additionally, the study suggests that the significance of agricultural production for economic growth is likely to be observed in countries with favorable agroecological conditions, limited prospects for export earnings from industrial goods, and a dominance of small farms in the agriculture sector (Diao et al., 2010).

The study's findings hold crucial policy implications. The positive impact of inflation on the economic growth of Sri Lanka, Bangladesh, and Pakistan suggests that, in these cases, inflation is conducive to economic growth rather than detrimental. This aligns with previous research indicating a positive relationship between inflation and economic growth (Mallik and Chowdhury, 2001) and supports the structuralist argument that inflation is essential for economic growth. However, caution is advised in interpreting larger elasticities, as higher inflation may lead to inflationary spirals beyond a sustainable level (Mallik and Chowdhury, 2001). The transformation of South Asian countries from agricultural economies to manufacturing and export-oriented economies might explain the observed weak correlation between agricultural production and economic growth. The success of these countries appears to be rooted in the industrial and trade sectors, reflecting a shift from low-value-added goods and commodity marketing to high-value-added goods (Ito et al., 1999).

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Appendix

Table A1: Results of augmented Dickey Fuller test

Country	Variable	ADF Statistics	Test Critical Value (5%)	Decision	
Sri Lanka	Ln_Econ. Growth	-2.287	-1.721	Stationary	
	Ln_Ag Production	-2.585	-1.714	Stationary	
	Ln Exchange Rate	-1.491	-1.714	Non-stationary	
	Ln Inflation Rate	-0.508	-1.714	Non-stationary	
	Ln Foreign Direct Investment	1.116	-1.717	Non-stationary	
	Ln Broad money growth rate	0.702	-1.771	Non-stationary	
	ΔLn_Econ. Growth	-7.040	-3.000	Stationary	
	ΔLn_Ag Production	-7.226	-2.989	Stationary	
	ΔLn Exchange Rate	-5.077	-2.986	Stationary	
	ΔLn Inflation Rate	-7.478	-2.986	Stationary	
	ΔLn Foreign Direct Investment	-5.355	-2.986	Stationary	
	ΔLn Broad money growth rate	-9.356	-2.992	Stationary	
	Bangladesh	Ln_Econ. Growth	-1.089	-1.740	Non-stationary
		Ln_Ag Production	-0.654	-1.717	Non-stationary
Ln Exchange Rate		-2.120	-1.714	Stationary	
Ln Inflation Rate		-1.888	-1.714	Stationary	
Ln Foreign Direct Investment		-2.026	-1.714	Stationary	
Ln Broad money growth rate		-2.831	-1.717	Stationary	
ΔLn_Econ. Growth		-7.330	-2.997	Stationary	
ΔLn_Ag Production		-6.026	-2.989	Stationary	
ΔLn Exchange Rate		-3.982	-2.986	Stationary	
ΔLn Inflation Rate		-6.285	-2.986	Stationary	
ΔLn Foreign Direct Investment		-5.129	-2.986	Stationary	
ΔLn Broad money growth rate		-7.239	-2.989	Stationary	
Bhutan		Ln_Econ. Growth	-1.080	-1.812	Non-stationary
		Ln_Ag Production	-1.977	-1.717	
	Ln Exchange Rate	-0.462	-1.714	Non-stationary	
	Ln Inflation Rate	-2.918	-1.714		
	Ln Foreign Direct Investment	-1.087	-1.943	Non-stationary	
	Ln Broad money growth rate	-1.970	-1.717	Stationary	
	ΔLn_Econ. Growth	-5.285	-3.000	Stationary	
	ΔLn_Ag Production	-5.243	-2.989	Stationary	
	ΔLn Exchange Rate	-4.983	-2.986	Stationary	
	ΔLn Inflation Rate	-6.065	-2.986	Stationary	
	ΔLn Foreign Direct Investment	-6.045	-3.000	Stationary	
	ΔLn Broad money growth rate	-12.510	-2.989	Stationary	
	India	Ln_Econ. Growth	-1.535	-1.782	
		Ln_Ag Production	0.596	-1.717	Non-stationary
Ln Exchange Rate		-0.464	-1.714	Non-stationary	

	Ln Inflation Rate	-1.953	-1.714	Stationary
	Ln Foreign Direct Investment	-2.617	-1.714	Stationary
	Ln Broad money growth rate	-1.465	-1.717	Non-stationary
	Δ Ln Econ. Growth	-7.390	-3.000	Stationary
	Δ Ln Ag Production	-7.855	-2.989	Stationary
	Δ Ln Exchange Rate	-4.982	-2.986	Stationary
	Δ Ln Inflation Rate	-7.003	-2.989	Stationary
	Δ Ln Foreign Direct Investment	-4.982	-2.986	Stationary
	Δ Ln Broad money growth rate	-7.003	-2.986	Stationary
Maldives	Ln Econ. Growth	-1.948	-1.746	Stationary
	Ln Ag Production	-0.879	-1.717	Non-stationary
	Ln Exchange Rate	-1.107	-1.714	Non-stationary
	Ln Inflation Rate	-0.920	-1.860	Non-stationary
	Ln Foreign Direct Investment	-0.701	-1.714	Non-stationary
	Ln Broad money growth rate	-2.395	-1.740	Stationary
	Δ Ln Econ. Growth	-6.387	-3.000	Stationary
	Δ Ln Ag Production	-4.705	-2.989	Stationary
	Δ Ln Exchange Rate	-4.105	-2.986	Stationary
	Δ Ln Inflation Rate	-3.741	-3.000	Stationary
	Δ Ln Foreign Direct Investment	-7.736	-2.986	Stationary
	Δ Ln Broad money growth rate	-7.056	-2.997	Stationary
Nepal	Ln Econ. Growth	-2.958	-1.833	Stationary
	Ln Ag Production	-0.083	-1.717	Non-stationary
	Ln Exchange Rate	-0.499	-1.714	Non-stationary
	Ln Inflation Rate	-1.971	-1.714	
	Ln Foreign Direct Investment	-1.894	-1.943	Non-stationary
	Ln Broad money growth rate	-2.434	-1.717	Stationary
	Δ Ln Econ. Growth	-8.796	-3.000	Stationary
	Δ Ln Ag Production	-8.465	-2.989	Stationary
	Δ Ln Exchange Rate	-4.819	-2.986	Stationary
	Δ Ln Inflation Rate	-8.027	-2.986	Stationary
	Δ Ln Foreign Direct Investment	-5.238	-3.000	Stationary
	Δ Ln Broad money growth rate	-8.655	-2.989	Stationary
Pakistan	Ln Econ. Growth	-1.187	-2.920	Stationary
	Ln Ag Production	-0.866	-1.717	Non-stationary
	Ln Exchange Rate	-0.496	-1.714	Non-stationary
	Ln Inflation Rate	-2.931	-1.714	Stationary
	Ln Foreign Direct Investment	-3.699	-1.714	Stationary
	Ln Broad money growth rate	-2.684	-1.717	Stationary
	Δ Ln Econ. Growth	-4.373	-3.000	Stationary
	Δ Ln Ag Production	-7.844	-2.989	Stationary
	Δ Ln Exchange Rate	-3.676	-2.986	Stationary
	Δ Ln Inflation Rate	-5.798	-2.986	Stationary
	Δ Ln Foreign Direct Investment	-4.911	-2.986	Stationary
	Δ Ln Broad money growth rate	-6.230	-2.625	Stationary

Country	Variable	Test Statistics	Test Critical Value (5%)	Decision
Sri Lanka	Ln_Econ. Growth	-2.121	-3.000	Non-stationary
	Ln_Ag Production	-1.333	-2.986	Non-stationary
	Ln Exchange Rate	-0.909	-2.983	Non-stationary
	Ln Inflation Rate	-3.757	-2.983	Stationary
	Ln Foreign Direct Investment	-3.946	-2.983	Stationary
	Ln Broad money growth rate	-4.263	-2.989	Stationary
	Δ Ln_Econ. Growth	-8.834	-3.000	Stationary
	Δ Ln_Ag Production	-7.650	-2.989	Stationary
	Δ Ln Exchange Rate	-5.134	-2.986	Stationary
	Δ Ln Inflation Rate	-9.622	-2.986	Stationary
Bangladesh	Δ Ln Foreign Direct Investment	-6.043	-2.986	Stationary
	Δ Ln Broad money growth rate	-10.492	-2.992	Stationary
	Ln_Econ. Growth	-2.952	-2.992	Non-stationary
	Ln_Ag Production	-0.169	-2.986	Non-stationary
	Ln Exchange Rate	-2.339	-2.983	Non-stationary
	Ln Inflation Rate	-3.581	-2.983	Stationary
	Ln Foreign Direct Investment	-2.037	-2.983	Non-stationary
	Ln Broad money growth rate	-3.814	-2.986	Stationary
	Δ Ln_Econ. Growth	-8.090	-2.997	Stationary
	Δ Ln_Ag Production	-6.056	-2.989	Stationary
Δ Ln Exchange Rate	-3.852	-2.986	Stationary	
Δ Ln Inflation Rate	-7.470	-2.986	Stationary	
Δ Ln Foreign Direct Investment	-5.208	-2.986	Stationary	
Δ Ln Broad money growth rate	-8.151	-2.989	Stationary	

Table A2: Results of Phillips–Perron unit-root test

Bhutan	Ln_Econ. Growth	-4.170	-3.000	Stationary
	Ln_Ag Production	-3.395	-2.986	Stationary
	Ln Exchange Rate	-3.238	-2.983	Stationary
	Ln Inflation Rate	-2.388	-2.983	Non-stationary
	Ln Foreign Direct Investment	-5.753	-3.000	Stationary
	Ln Broad money growth rate	-6.193	-2.986	Stationary
	Δ Ln_Econ. Growth	-6.150	-3.000	Stationary
	Δ Ln_Ag Production	-5.414	-2.989	Stationary
	Δ Ln Exchange Rate	-5.082	-2.986	Stationary
	Δ Ln Inflation Rate	-6.105	-2.986	Stationary
India	Δ Ln Foreign Direct Investment	-8.187	-3.000	Stationary
	Δ Ln Broad money growth rate	-15.852	-2.989	Stationary
	Ln_Econ. Growth	-3.751	-3.000	Non-stationary
	Ln_Ag Production	0.319	-2.986	Non-stationary
	Ln Exchange Rate	-3.239	-2.983	Stationary
	Ln Inflation Rate	-2.289	-2.983	Non-stationary
	Ln Foreign Direct Investment	-2.466	-2.983	Non-stationary
	Ln Broad money growth rate	-2.615	-2.986	Non-stationary
	Δ Ln_Econ. Growth	-7.900	-3.000	Stationary
	Δ Ln_Ag Production	-8.117	-2.989	Stationary
Δ Ln Exchange Rate	-5.082	-2.986	Stationary	
Δ Ln Inflation Rate	-6.981	-2.986	Stationary	
Δ Ln Foreign Direct Investment	-6.082	-2.986	Stationary	
Δ Ln Broad money growth rate	-9.734	-2.989	Stationary	

Maldives	Ln_Econ. Growth	-3.832	-2.994	Stationary	
	Ln_Ag Production	-0.911	-2.986	Non-stationary	
	Ln Exchange Rate	-2.092	-2.983	Non-stationary	
	Ln Inflation Rate	-3.037	-3.000	Stationary	
	Ln Foreign Direct Investment	-1.026	-2.983	Non-stationary	
	Ln Broad money growth rate	-3.625	-2.992	Stationary	
	Δ Ln_Econ. Growth	-6.832	-3.000	Stationary	
	Δ Ln_Ag Production	-4.708	-2.989	Stationary	
	Δ Ln Exchange Rate	-4.049	-2.986	Stationary	
	Δ Ln Inflation Rate	-3.712	-3.000	Stationary	
	Δ Ln Foreign Direct Investment	-8.203	-2.986	Stationary	
	Δ Ln Broad money growth rate	-7.263	-2.997	Stationary	
	Nepal	Ln_Econ. Growth	-4.477	-3.000	Stationary
		Ln_Ag Production	0.389	-2.986	Non-stationary
Ln Exchange Rate		-3.053	-2.983	Stationary	
Ln Inflation Rate		-3.502	-2.983	Stationary	
Ln Foreign Direct Investment		-2.352	-3.000	Non-stationary	
Ln Broad money growth rate		-4.630	-2.986	Stationary	
Δ Ln_Econ. Growth		-10.739	-3.000	Stationary	
Δ Ln_Ag Production		-8.830	-2.989	Stationary	
Δ Ln Exchange Rate		-4.894	-2.986	Stationary	
Δ Ln Inflation Rate		-9.548	-2.986	Stationary	
Δ Ln Foreign Direct Investment		-5.045	-3.000	Stationary	
Δ Ln Broad money growth rate		-10.299	-2.989	Stationary	
Pakistan		Ln_Econ. Growth	-1.841	-3.000	Non-stationary
		Ln_Ag Production	-0.992	-2.986	Non-stationary
	Ln Exchange Rate	-0.923	-2.983	Non-stationary	
	Ln Inflation Rate	-2.380	-2.983	Non-stationary	
	Ln Foreign Direct Investment	-2.352	-2.983	Non-stationary	
	Ln Broad money growth rate	-3.855	-2.986	Stationary	
	Δ Ln_Econ. Growth	-5.681	-3.000	Stationary	
	Δ Ln_Ag Production	-9.244	-2.989	Stationary	
	Δ Ln Exchange Rate	-3.542	-2.986	Stationary	
	Δ Ln Inflation Rate	-5.786	-2.986	Stationary	
	Δ Ln Foreign Direct Investment	-4.930	-2.986	Stationary	
	Δ Ln Broad money growth rate	-7.213	-2.989	Stationary	

DETERMINANTS OF TURNOVER INTENTION OF NON-MANAGERIAL STAFF: MODERATED MEDIATION ROLE OF SOCIAL SUPPORT AND WORK STRESS

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Abstract

It was revealed that the staff turnover of ABC Company, a liquor production and distribution company in Sri Lanka, has increased over 2020, 2021 and 2022 according to the information available in the Company Annual Reports. This research study was conducted with the purpose of examining the impact of workload on the turnover intention of the non-managerial staff of ABC Company and provide recommendations to reduce the turnover intention. Workload (IV), Work Stress (M), Social Support (W) and Turnover Intention (DV) were considered as the study variables and four hypotheses were developed for the assessment. A sample of 148 employees representing the category of non-managerial staff were surveyed for the data collection. The data were analysed using Hayes Process Macro – Model 14. The findings of the study revealed that workload has an impact on turnover intention and work stress mediates the impact of workload on turnover intention, however, social support does not moderate the impact of work stress on turnover intention. Based on the findings, it was recommended that the management takes measures to reduce turnover intention through the reduction of the workload by replacing every employee who leaves the organization without creating a labour vacuum, expediting the staff replacement process without creating hiring gaps and checking the staff shortages and increasing the number of cadre required to fulfil the tasks in order to distribute the workload in a fair and proper manner.

Key Words: Workload, Work Stress, Social Support, Turnover Intention

Introduction

“Employees in an organization have a very important role because employees are one of the drivers to achieve the goals of an organization. Therefore, the organization must pay careful attention employees who can influence the condition of the organization” (Gibson et al. as cited in Wibowo, Setiawan & Yuniarinto, 2021). In the highly dynamic business environment today, retaining employees for a longer period of time is an inevitable challenge for an any organization. In front of this challenge, identification and elimination of factors influencing employee turnover is a crucial task. A contented workforce is a primary requirement for an organization to successfully achieve its goals and objectives. Therefore, organizations should take necessary measures to examine and eliminate the factors that influence their employees to quit, and in turn retain them for the best interest of the organization.

ABC Company is a business organization engaged in manufacturing and selling liquor products to the local and international market. It consists of 945 employees at present including managerial staff, non-managerial staff and labourers. The production plants and distribution outlets of ABC Company are located island wide. As per the increased staff turnover of ABC Company during the past three years, it is in question whether its employees have an intention to stay in the Company for a longer period. With reference to the Annual Reports of the Company for the last three consecutive financial years, it was observed that there is a gradual decrease in the number of employees of the Company from 2019/20 to 2021/22. The said decrease includes both voluntary turnover (resignation and vacation of post) and non-voluntary turnover (retirement, termination, expiry of contract and decease). Table 1 shows the number of voluntary turnovers over the past three financial years. Table 1 shows the category-wise employee turnover during the period from 2019/20 to 2021/22.

Table 1: Category-wise Employee Turnover (voluntary) from 2019/20 to 2021/22

Financial Year	Managerial Staff	Non-Managerial Staff	Laborers	Total
2019/20	14	47	28	89
2020/21	12	50	32	94
2021/22	8	58	30	96

Note: The employees of ABC Company can be segregated into three main categories according to their grades. Those three categories are, namely, Managerial Staff, Non-Managerial Staff and Labourers.

The declining trend in non-managerial staff suggests a potential turnover in that staff category. Understanding the factors contributing to the decline in managerial staff could provide insights into the organization's strategic decisions and workforce planning.

Understanding turnover intention provides insights into workplace issues such as poor leadership, lack of support, high workload or inadequate work-life balance that led to work stress. Addressing these issues can contribute to a healthier and more positive work environment (Steel & Ovalle, 1984; Vandenberg & Nelson, 1999).

Therefore, it is important to study the factors affecting employee turnover intention of Non-Managerial Staff of ABC Company and the level of their intention to leave the Company in the years to come in order to recommend appropriate measures to counterattack the staff turnover. And in line with that following research objectives have been formulated.

- To examine the factors affecting turnover intention of Non-Managerial Staff of ABC Company
- To examine the moderating role of Social Support in predicting Turnover Intention of Non-Managerial Staff of ABC Company
- To examine the mediating role of work stress in predicting Turnover Intention of Non-Managerial Staff of ABC Company

Literature review

Turnover Intention

Turnover intention can be identified as the desire of an individual to leave an organization (Tett & Meyer as cited in Khan et al. 2014). It is an attitudinal (thinking of quitting), decisional (intention to leave), and behavioural (seeking for a new job) process (Sager as cited in Khan et al. 2014). Hom and Griffeth (as cited in Shibu & Rengaraj, 2020) further elaborated turnover intention as the relative strength of an individual's intent toward voluntary permanent withdrawal from an organization. The stages of the emergence of employee turnover intention are when someone evaluates his job, assesses or directs his satisfaction and dissatisfaction with his work, calculates the cost and benefits of his work, and ends with a real decision by staying or leaving the job (Mobley as cited in Wibowo et al., 2021).

Employee turnover intention is a critical aspect of human resource management that seeks attention due to its significant impact on organizational performance, productivity, and overall workplace dynamics. Several studies provide evidence supporting the importance of studying and managing employee turnover intention. High turnover intention can lead to actual turnover, resulting in a loss of skilled and experienced employees. This can negatively impact organizational performance and productivity (Mobley, 1982; Hom, Caranikas-Walker, Prussia, & Griffeth, 1992).

On the other hand, Employee turnover involves direct and indirect costs such as recruitment, training, and lost productivity. Understanding turnover intention can help organizations estimate and manage these costs effectively (Cascio, 1991; Price, 1977). Further, turnover intention disrupts workforce stability and continuity. By identifying and addressing the factors contributing to turnover intention, organizations can work towards creating a more stable and reliable workforce (Holtom, Mitchell, Lee, & Eberly, 2008).

Turnover intention is often linked to job satisfaction and engagement. Research suggests that addressing factors influencing turnover intention, such as job satisfaction, can enhance overall employee well-being and commitment (Hom, & Gaertner, 2000). High turnover can also negatively impact an organization's reputation. Potential employees may be hesitant to join a company with a history of high turnover. Managing turnover intention can contribute to a positive employer brand (Turban & Cable, 2003; Rynes, Bretz, & Gerhart, 1991).

Understanding turnover intention provides insights into workplace issues such as poor leadership, lack of careers support, high workload or inadequate work-life balance that led to work stress. Addressing these issues can contribute to a healthier and more positive work environment (Vandenberg & Nelson, 1999).

Therefore, employee turnover intention is crucial for HRM professionals to monitor and address because it serves as an early indicator of potential turnover and provides valuable insights into the overall health and effectiveness of the organization's human resources. By understanding and mitigating turnover intention, organizations can foster a more stable, engaged, and productive workforce.

Workload and Turnover Intention

Workload is a set or number of activities that must be completed while on duty (Westphal & Zhu, 2019). Halimu, Said and Pardiman (2022) defined workload as a series of activities that must be completed by an organizational unit or position holder within a certain period of time. According to Nayoan et al. (2021), a person's workload has been determined in the form of work standards according to the type of work.

Nayoan et al. (2021) stated that the workload can be seen from the physical and mental workload; if the workload borne by an employee is too heavy or weak, physical abilities will certainly result in an obstacle in working, so that the employee will feel sick because of a job. Thus, the workload is closely related to feeling tired when given excessively to employees and this can trigger a turnover of the employee (Bakker et al. as cited in Wibowo et al., 2021). Qureshi et al. (2013) found that workload is positively related to the employee turnover intention. According to Qureshi et al. (2013), a rational workload is a win-win situation for the organization and their study has provided the empirical evidence that employee thinks to leave the job when they are over burden. Wibowo et al., (2021) stated that, the research results from Qureshi et al. (2013), Yang et al. (2014), Khan et al. (2014), and Pradana & Salehudin (2015) prove that workload affects the turnover intention.

Work Stress and Turnover Intention

Stress can be defined as an adaptive response, mediated by individual differences, that is a consequence of any action, situation, or event that places special demands on a person (Gibson, Ivancevich & Donnely, 1996, p. 195). Robbin and Judge (2018, p. 14) stated that stress is an unpleasant psychological condition that occurs in response to environmental pressures. Job stress occurs when there is an imbalance between job requirements and a worker's ability to cope (Sewwandi & Perere, 2016). Whitt and Wilson (as cited in Liyanage, Madhumini & Galhena, 2014) have defined the job stress as a feeling or a condition a person experienced when that person perceives that demands exceed the personal and social resources the individual is able to mobilize.

Turnover intention is positively correlated with stress in the view of Layne et al. as cited in Khan et al. (2014). According to Khan et al. (2014), studies indicate that as stress level increases, individuals are more likely to leave their position and seek alternative roles either within the field or in another industry. According to Sewwandi and Perere (2016), there are many researchers (Noor & Maad 2008; Sherazet al. 2014; Mxenge et al. 2014) who have identified that there is a significant impact of job stress on turnover intentions. Many researchers (Muhammad et al. as cited in Khan et al. 2014; Kaur et al. 2013) suggest that if organizations are willing to retain their employees, they must reduce job stressors which may cause the job stress ultimately leading to employee turnover intentions (Sewwandi & Perere, 2016).

Social Support, Stress and Turnover Intention

Social support can be defined as the comfort, assistance, or information one receives through formal or informal contacts with individuals or groups. Social support may take the form of emotional support (expressing concern, indicating trust, boosting esteem, listening), appraisal support (providing feedback and affirmation), or informational support (giving advice, making suggestions, providing direction). People who can serve as sources of social support at work include supervisors, co-workers, subordinates, and customers or other non-organizational members with whom an employee might have contact. A co-worker listening to a friend who failed to receive a desired promotion, a group of recently laid-off workers helping each other find new employment, or an experienced employee helping a trainee learn a job are all examples of providing support (Gibson et al, 1996).

Numerous studies have highlighted the positive relationship between social support and job satisfaction. Social support, both from supervisors and colleagues, contributes to a positive work environment, enhancing employees' satisfaction with their jobs (Eisenberger, Huntington, Hutchison, & Sowa, 1986; Rhoades &

Eisenberger, 2002). On the other hand, the job satisfaction being a one of key predictor of turnover intention. Employees who are satisfied with their jobs are less likely to consider leaving the organization. By fostering a positive work environment, social support can definitely contribute to higher job satisfaction and, consequently, lower turnover intention (Hom & Kinicki, 2001).

Social support can also act as a buffer against stressors in the workplace. High levels of job stress are often associated with increased turnover intention. Social support, by providing emotional and instrumental assistance, can mitigate the impact of stress on turnover intention (Eisenberger et al., 1986; Wayne, Shore, & Liden, 1997).

According to Gibson et al. (1996), social support is effective as a stress moderator because it buffers the negative effect of stressors by providing a degree of predictability, purpose, and hope in upsetting and threatening situations. Social support has been shown to reduce stress among employed individuals ranging from unskilled workers to highly trained professionals; it is consistently cited as an effective stress coping technique, and it has been associated with fewer health complaints experienced during periods of high stress (Gibson et al, 1996). One source of work stress experienced by an employee comes from the quality of relationships between colleagues. When the quality of interpersonal relationships in the work is not good it can lead to mental stress which can trigger stress levels to be high. In addition, the lack of social support from colleagues can cause considerable stress, especially among employees with social needs where someone who is experiencing work stress needs support (Robbins & Judge as cited in Wibowo et al., 2021).

It is proven that social support in the workplace plays a crucial role in influencing turnover intention by impacting job satisfaction, reducing the impact of stressors, enhancing organizational commitment, and fostering positive work relationships. Organizations that prioritize the development of supportive work environments are likely to experience lower turnover rates among their employees.

Workload, Work Stress and Turnover Intention

Heavy workload has consistently been linked to increased levels of work-related stress. Employees experiencing a high volume of tasks, tight deadlines, or insufficient resources may perceive their workload as stressful (Bakker, Demerouti, & Euwema, 2005; Podsakoff, LePine, & LePine, 2007).

Further, work stress serves as a mediating factor in the relationship between workload and turnover intention. The increased workload contributes to higher levels of work stress, and this stress, in turn, becomes a significant factor influencing employees' intention to leave the organization (Koeske & Koeske, 1993; Podsakoff et al., 2007). According to Qureshi et al. (2013), a number of researchers, e.g. Andrew et al., 2008; Jex, Beehr, & Roberts, 1992; have supported a positive relationship between workload, stress and turnover intention. Glaser, Tatum, Nebeker, Sorenson, & Aiello (as cited in Qureshi et al., 2013) found significant relationships between workload and stress and stress and turnover, and that stress plays an arbitrator role between workload and turnover intentions. The study of Pradana and Salehudin (2015) (as cited in Wibowo et al., 2021) states that the long exposure to stress from work is associated with an increase in the turnover of the employee which proved that when someone experiences excessive workload will cause work stress or stress that increases the turnover of employees.

Methodology

Research Design

The research philosophy guiding this study is grounded in Positivism, emphasizing scientific testing and statistical analysis. Positivism, originating from the natural sciences, prioritizes large sample sizes to derive objective and quantitative data (Collis and Hussey, 2014). Aligned with Positivism, the Deductive approach will be utilized, involving reasoning from general rules to specific law-like inferences for theory testing (Melnikovas, 2018). The study adopts a scientific investigation format, testing hypotheses formulated from existing theories. This approach is deemed suitable for achieving the research objectives. The research methodology choice is a Mono-method Quantitative Research Methodology, emphasizing systematic investigation through the gathering of quantifiable data and statistical techniques (Saunders et al., 2015). This choice ensures objective, elaborate, and investigational templates, yielding logical, statistical, and unbiased results. The research strategy employed is a Survey Strategy, involving the distribution of questionnaires among a selected sample to gather data for hypothesis

testing (Melnikovas, 2018). The time horizon is defined as Cross-sectional, indicating a short-term study involving data collection at a specific point in time. This comprehensive framework, guided by Positivism, Deductive reasoning, and Mono-method Quantitative Research Methodology, ensures a rigorous and objective exploration of the turnover intention phenomenon within the specified context.

Conceptual Farmwork

In line with research objectives the conceptual framework of the research study has been formulated as follows with one independent variables, one mediating variable, one moderating variable and one independent variable.

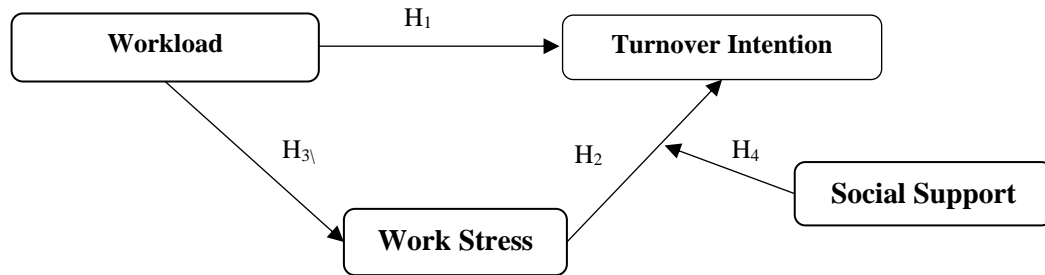


Figure 1: Conceptual Framework

Hypotheses

Following hypothesis were developed based on the conceptual framework.

- H₁ – Workload has an impact on Turnover Intention
- H₂ – Work Stress has an impact on Turnover Intention
- H₃ – Work Stress mediates the impact of Workload on Turnover Intention
- H₄ – Social Support moderates the impact of Work Stress on Turnover Intention
- H₅ – Social Support moderates the mediation effect of Work Stress on the relationship between Workload and Turnover Intention (Moderated Mediation)

Operationalization

The operationalization of the study variables is presented in Table 3.1.

Table 2: Operationalization

Variable	Dimension	Maturement Scale	Literature Source
Workload	1. Mental Demand 2. Physical Demand 3. Temporal Demand 4. Effort 5. Own Performance 6. Frustration	1 to 5 Lickert Scale	Hart and Staveland, as cited in Wibowo, et al. (2021)
Work Stress	1. Task Demands 2. Role Demands 3. Quality of Colleague Interactions	1 to 5 Lickert Scale	Robbins and Judge, as cited in Wibowo, et al. (2021)
Social Support	1. Belonging Support 2. Appraisal Support 3. Tangible Support 4. Self-Esteem Support	1 to 5 Lickert Scale	Schonfeld as cited in Wibowo, et al. (2021)
Turnover Intention	1. Thinking of Quitting (Attitudinal) 2. Intention to Quit (Decisional) 3. Job Search (Behavioural)	1 to 5 Lickert Scale	Hom & Griffeth; Tett & Meyer; Khan et al. as cited in Wibowo, et al. (2021)

Population and Sampling

Out of the total number of 945 employees of ABC Company, 239 belong to the worker category of Non-Managerial Staff including Senior Executive, Executive, Junior Executive and Assistant Grade staff who are

employed attached to the 4 locations of the Company. Therefore, the population considered for this research is 239 employees. Out of the 239 Non-Managerial Staff, a sample of 148 employees were selected for the survey. The sample size was determined based on the Morgan Table¹ at a 95% confidence. Stratified Random Sampling, under Probability Sampling, was used as the sampling technique for this research. The population was divided firstly into work locations (primary strata) and secondly into grades (secondary strata). A sample was selected on proportionate basis representing the population firstly from each location and secondly from each grade and the respondents were randomly selected from each grade of each location.

Data Collection and Analysis

A questionnaire was used as the survey instrument to collect the primary data in the study. A scale from 1 to 5 (1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree and 5=Strongly Agree) was given to rate each statement. The questionnaire consists of two parts where first one examines about the demographic factors of respondents while second part examine the behavioural aspect of the respondent.

Quantitative data are analysed after screening the collected data. Microsoft Excel is used to make simple mathematical computations, work out statistical computations such as averages and to produce raw data sheets of primary data which are collected from 5-point Likert-scale quantitative questionnaires. SPSS 25.0 statistic software is utilized as the major analytical tool to perform, frequency analysis, descriptive analysis, reliability analysis, corelation analysis, regression-based mediation, moderation, and conditional process analysis by Hayes, A. F. (2017).

Results and discussion

Pilot Study

The pilot test was run with the first 30 responses to check the reliability of the survey instrument. The Cronbach’s Alpha was calculated to test the reliability of the survey instrument and since the Cronbach’s Alpha Value of each variable was above 0.7, the reliability was assured and the researcher came to the conclusion that there was a high internal consistency between the indicators of each variable and hence, proceeded with the survey using the same survey instrument.

Sample Profile

Data pertaining to the demographic factors which were collected from the survey. Four demographic factors were considered for this research study namely, Gender, Age Group, Marital Status, and Educational Level. The demographic profile is presented below in terms of frequency, percentage and cumulative percentage in the Table 4.1 below.

Table 3: Sample Profile

Variable	Categories	n	Percentage
Gender	Male	114	77%
	Female	34	23%
Marital Status	Married	100	68%
	Unmarried	48	32%
Educational Level	Ordinary Level	1	1%
	Advanced Level	107	72%
	Bachelor’s Degree	40	27%
	Master’s Degree	0	0%
Age Group	20-29	35	24%
	30-39	59	40%
	40-49	46	31%
	50 & above	8	5%

Note: n = 148

Table 4.1 indicates that out of the total no. of 148 respondents, 114 of the respondents are male which accounts for 77% of the sample and 34 are female. The respondents of the sample fall into four age groups categorically, 20-29, 30-39, 40-49 and 50 & above. Table 4.1 indicates that 40% of the respondents are in the age group of 30-39, 31% are in the age group of 40-49, 24% are in the age group of 20-29 and 5% are in the age group

of 50 & above. Accordingly, the majority of the respondents are in the age group of 30-39. Table 4.1 above directs that out of the total no. of 148 respondents, 68% of the respondents are married and 32% are unmarried. Accordingly, the majority of the respondents (68%) are married. The respondents of the sample fall into four categories according to their highest educational qualification, namely Ordinary Level, Advanced Level, bachelor’s degree and master’s Degree. The table 4.1 shows that out of the total no. of 148 respondents, 72% has Advanced Level, 27% has a bachelor’s degree, 1% has Ordinary Level and 0% has a master’s degree as their highest educational qualification. Accordingly, the majority of the respondents (72%) have Advanced Level as their highest educational qualification.

Reliability Analysis

The Cronbach’s Alpha was calculated to assure the reliability of the full data set collected from 148 respondents. The results of the Reliability Test are given in Table 4.2.

Table 4: Reliability Statistics

Variable	No. of Items	Cronbach’s Alpha Value
Workload	5	0.756
Work Stress	6	0.841
Social Support	8	0.922
Turnover Intention	6	0.872

The table displays the reliability analysis results, specifically Cronbach's Alpha coefficients, for different variables in the study. Cronbach's Alpha assesses the internal consistency or reliability of a scale, with higher values indicating greater reliability. In this study, all variables exhibit a Cronbach's Alpha value higher than 0.7. These findings suggest that the measurement scales used have high internal consistency, enhancing the credibility of the study's results (Citations: DeVellis, 2016; Hair et al., 2019).

Descriptive statistics

The Table 4.3 below displays the descriptive statistics of four variables in the model. In other words, the overall score given by the respondents for each variable. The mean was calculated to analyse the Central Tendency of the responses for each indicator and the Standard Deviation was calculated to analyse the Variability of the responses for each indicator from their Mean value.

Table 5: Descriptive Statistics

Variable	Mean	Standard Deviation
Workload	3.45	0.86
Work Stress	3.27	0.86
Social Support	3.10	1.00
Turnover Intention	2.92	0.96

The mean workload reported by respondents is 3.45, and the data points vary around this average by approximately 0.86 units. On average, participants rated their work stress at 3.27, and there is a standard deviation of 0.86. Respondents reported an average level of social support at 3.10, with a standard deviation of 1.00, suggesting a wider range of variability compared to the other variables. The mean turnover intention is 2.92, and the standard deviation is 0.96, indicating the degree of variation in individuals' intentions to leave their current employment.

Correlation Analysis

The Correlation Analysis was done to find the correlations existing between the variables. The Pearson’s coefficient of correlation was used to measure the association between each study variable and the dependent variable. The results of the correlation analysis are presented in the below matrix and each cell shows the Pearson correlation coefficient between the respective variables (Table 4.4).

According to the below results, the strongest positive significant association is seen in between Work Stress and Turnover Intention and its correlation coefficient is 0.779 at the 0.001 significance level (r=0.779, p<0.01).

Table 6: Correlation Matrix

	Workload	Work Stress	Social Support	Turnover Intention
Workload	1			
Work Stress	0.743**	1		
Social Support	-0.405**	-0.576**	1	
Turnover Intention	0.770**	0.779**	-0.539**	1

The next stronger positive correlation is between Workload and Turnover Intention in which case the correlation coefficient is 0.770 at the 0.001 significance level ($r = 0.770, p < 0.01$). Social Support exhibits a negative and significant correlation with Turnover Intention ($r = -0.539, p < 0.01$). These findings suggest that there are robust positive/negative relationships between the variables, emphasizing the interconnected nature of Workload, Work Stress, Social Support, and Turnover Intention. The significance levels ($p < 0.01$) indicate that these correlations are highly reliable (Dancey & Reidy, 2019; Field, 2013).

Moderated Mediation Analysis

A Moderated Mediation Test was run to determine if the mediation of Work Stress is present in the relationship between Workload and Turnover Intention and to examine if Social Support is moderating the strength of that indirect effect. Hayes Process Macro - Model 14 was used to run the moderated mediation test and the results are reported in Table 4.5, Table 4.6 and Table 4.7 as follows.

According to Table 4.4 below, Workload the independent variable of the model has a significant positive impact on Work Stress which is the mediating variable ($b=0.7824, t=13.433, p<0.01$). The positive impact of Workload on Turnover Intention which is considered as the dependent variable of the model is highly significant ($b=0.5350, t=6.3739, p<0.01$).

Table 7: Direct and Moderated Relationships of the Model

Relationship	Effect	Confidence Interval		SE	t
		Lower Bound	Upper Bound		
Workload > Work Stress	0.7824 (0.000)	0.6673	0.8975	0.0582	13.433
Workload > Turnover Intention	0.5350 (0.000)	0.3691	0.7010	0.0839	6.373
Work Stress > Turnover Intention	0.4404 (0.000)	0.2631	0.6178	0.897	4.909
Social Support > Turnover Intention	-0.1363 (0.010)	-0.1556	-0.0325	0.0525	-2.5949
Work Stress × Social Support > Turnover Intention	-0.0377 (0.5282)	-0.1556	0.0802	0.0596	-0.6323

And Work Stress also demonstrates a competitively feeble positive significant impact on Turnover Intention ($b=0.4404, t=4.9090, p<0.01$). These positive relationships imply that a higher scores on Workload and Work Stress are associated with increased Turnover Intention. Nevertheless, Social Support which is the moderator variable of the model has a negative significant impact on Turnover Intention ($b= -0.1363, t= -2.5949, p>0.05$).

However, the interaction effect of Work Stress and Social Support on Turnover Intention is not statistically significant ($b= -0.0377, t<-1.96, p>0.05$). This indicates that the Interaction of Work Stress and Social Support does not cause a significant change in Turnover Intention.

Table 8: Mediated Relationship of the Model

Relationship	Direct Effect	Indirect Effect	Confidence Interval	
			Lower Bound	Upper Bound
Workload > Turnover Intention	0.5350	-	0.3691	0.7010
Workload > Work Stress > Turnover Intention		0.3446	0.2031	0.5089

As per the above results, the indirect effect is calculated as $(0.7824) \times (0.4404) = 0.3446$, and the lower boundary and upper boundary of bootstrapped confidence level of indirect effect does not contain zero or any negative value, we have enough evidence to establish the fact that Work Stress mediates the impact of Workload

on Turnover Intention. These results reveal a significant complementary indirect effect of Workload on Turnover Intention through Work Stress.

Furthermore, the direct effect of Workload on Turnover Intention in presence of the mediator was also found significant ($b = 0.5350, p < 0.01$). Hence, Work Stress partially mediated the relationship between Workload and Turnover Intention.

Table 9: Moderated Mediation Relationship of the Model

Relationship	Social Support	Effect	Boot SE	Confidence Interval	
				Lower Bound	Upper Bound
Conditional Indirect Effects	-0.8046	0.3683	0.1013	0.1828	0.5835
	0.0000	0.3446	0.0782	0.2031	0.5089
	0.8046	0.3208	0.0801	0.1703	0.4880
Index of Moderated Mediation					
Workload > Work Stress × Social Support > Turnover Intention		-0.0295	0.0585	-0.1292	0.0987

As per the above table the conditional indirect effects of Workload on Turnover Intention, though Work Stress is high at low level of Social Support, slightly less at average level of Social Support and further reduced at higher levels of Social Support. Even though the indirect effects are significant at all three levels, the difference is not big enough to establish a conditional indirect effect.

These findings can be further verified through the moderated mediation results. The index of Moderated Mediation is -0.0295 and there is a zero in between the lower limit and upper limit of the bootstrapped confidence interval (-0.1292 to 0.0987) indicating fact that Social Support does not moderate the indirect effect of Workload on Turnover Intention through Work Stress.

Based on the above results, the below hypotheses were tested through the Moderated Mediation Analysis and the findings are as follows:

- H₁ suggested that Workload has an impact on Turnover Intention. The results of the analysis revealed that Workload has a significantly positive impact on Turnover Intention ($b=0.535, t=6.374, p<0.01$). Therefore, H₁ was supported.
- H₂ suggested that Work Stress has an impact on Turnover Intention. The result of the analysis indicated that Work Stress has a significantly positive impact on Turnover Intention ($b= 0.440, t=4.909, p<0.01$). Therefore, H₂ was supported.
- H₃ suggested that Work Stress mediates the impact of Workload on Turnover Intention. The mediation analysis revealed that Work Stress mediates the impact of Workload on Turnover Intention (direct effect = 0.535, indirect effect = 0.345, 95% CI = 0.203 - 0.509). Therefore, H₃ was supported.
- H₄ suggested that Social Support moderates the impact of Work Stress on Turnover Intention. The results revealed that Social Support does not moderate the impact of Work Stress on Turnover Intention [$b = -0.037, 95\% CI = 0.0596 - (-0.6323)$]. Therefore, H₄ was rejected.
- H₅ – suggested that Social Support moderates the mediation effect of Work Stress on the relationship between Workload and Turnover Intention (Moderated Mediation). The moderated mediation analysis did not reveal any significant effect (index = -0.0295, 95% CI = -0.1292 – 0.0987). Therefore, H₅ was rejected.

Conclusion

The purpose of this research was to study the factors affecting turnover intention of Non-Managerial Staff of ABC Company and the level of their intention to leave. In line with that, the present study was designed and executed in order to achieve main three (03) objectives, viz. 1) To examine the factors affecting turnover intention of Non-Managerial Staff of ABC Company, 2) To examine the moderating role of Social Support in predicting Turnover Intention of Non-Managerial Staff of ABC Company, and 3) To examine the mediating role of work stress in predicting Turnover Intention of Non-Managerial Staff of ABC Company.

The results of the study revealed that the amount of the workload handled by the Non-Managerial Staff of ABC Company has a significantly positive impact on their turnover intention which indicates that; higher the workload, higher the turnover intention and lesser the workload, lower the turnover intention. The effect of workload on turnover intention, following the results of empirical study from Wibowo et al. (2021). However, in this study, it was revealed, workload is the most influential factor affecting the turnover intention of the Non-Managerial Staff of ABC Company. It is noted that the company does not adequately replace the staff in a timely manner when staff are leaving the company which leads to the high volume of work to be handled by those who remain in the company. This has become the principal reason for the workload of individual employee to go high. The results of the study revealed that the work stress undergone by the Non-Managerial Staff of ABC Company has a significantly positive impact on their turnover intention which indicates that; higher the level of work stress, higher the turnover intention and lower the level of work stress, lower the turnover intention. In a similar study, Wibowo et al. (2021) revealed that work stress has a significant effect on employee turnover intention. Wibowo et al. (2021) explained that the results of the path analysis illustrated the existence of a positive correlation which means that the higher the level of stress will cause a higher turnover intention. The result of the study of Wibowo et al. (2021) is in line with previous empirical studies from Lu et al 2017. (as cited in Wibowo et al. 2021), Hakim et al. 2018 (as cited in Wibowo et al. 2021) and Zahra et al. 2018 (as cited in Wibowo et al. 2021), and similar to the result of this study.

The results of the study revealed that the work stress undergone by the Non-Managerial Staff of ABC Company mediates the impact of their workload on turnover intention. In a similar study, Wibowo et al. (2021) revealed that though workload did not significantly influence turnover intention, when work stress is used as an intermediary between the two relationships, the workload significantly influences turnover intention. This supports the opinion of Glazer and Beehr, 2015 (as cited in Wibowo et al., 2021) which states that work stress can act as an arbitrator between workload and turnover intention. The findings of the study explain that when an increase in workload is not able to be managed properly by the company, it will be very vulnerable for workers to feel repetitive physical and psychological pressure in the long term. When employees are overloaded with work, it exceeds their capabilities and the availability of time which is accumulated into work stress. The emergence of work stress will indirectly influence employees to think of leaving a job that provides excessive workload and high work stress.

The results of the study revealed that the social support receiving from peers does not moderate the impact of work stress on turnover intention of the Non-Managerial Staff of ABC Company. In a similar study, Wibowo et al. (2021) revealed that the role of social support did not moderate the effect of work stress on turnover intention. The role of social support as moderating work stress on turnover intention is following the results of empirical studies from Kaewboonco et al. 2014 (as cited in Wibowo et al., 2021) and Fong et al. 2018 (as cited in Wibowo et al., 2021) turn out to be a contradiction with the results of current study. The results of this study do not support the theory of Sarafino 2006 (as cited in Wibowo et al., 2021) about the role of social support as a buffer and direct effect where social support can change employees' responses to the stress they face. Accordingly, it can be concluded that social support does not act as a moderator but can act as an independent variable. The presence or absence of social support does not have a significant interaction with work stress levels but will have a significant impact on the desire to leave when it becomes an independent variable.

This study is concluded with the note that in order to retain the employees of ABC Company for a longer period, the management should pay special attention to reducing the workload by making the staff replacements timely and adequately and distributing the workload among the staff in a fair and proper manner. And should create an inclusive work environment that encourage the peer support.

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ECONOMIC GLOBALIZATION AND VALUE-ADDED AGRICULTURE: SAARC EXPERIENCE

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Abstract

Economic globalisations impact most countries since it is here that they derive most of their income. However, their meagre earnings and value-added agriculture need to be optimised. The objective of this research is to analyze the effects of economic globalization on value-added agriculture in the member states of the South Asian Association for Regional Cooperation (SAARC). The study aims to evaluate the influence of factors such as fertilizer consumption, agricultural employment, exchange rates, and foreign direct investment on value-added agriculture in SAARC. The study is limited to these selected variables within the chosen area of focus. Multiple linear regression was adopted to quantify the influence in eight countries between 2002 to 2021. The analysis indicates that, except for the Maldives, also a SAARC member, employment in agriculture significantly impacts the value-added agriculture in this sector. Bangladesh and Sri Lanka are noteworthy contributors to fertiliser consumption and value-added agriculture. Foreign direct investment substantially impacts the value-added agriculture of Bangladesh, Nepal, and Pakistan. In addition, exchange rates significantly affect value-added agriculture, except in Bangladesh and the Maldives.

Keywords: Agriculture Value Added, Economic Globalization, Fertilizer Consumption, Employment in Agriculture.

Introduction

Agricultural Value Addition (AVA) has been dramatically impacted by Economic Globalization (EG), with research demonstrating both positive and negative consequences (Nugroho & Lakner, 2022). Additionally, globalisation has improved access to markets for agricultural products, promoting increased commerce and economic expansion. This has allowed farmers to benefit from higher crop prices and access to modern technologies and innovations that can improve productivity (Anderson K., 2010). AVA and EG elucidate that a sector's net output is determined by tallying all the outputs and deducting the intermediate inputs, followed by agronomy, forestry, hunting, fishing, and livestock production adjustments. EG denotes a historical process arising from technological advancement and human ingenuity, making this process simpler (Di Giovanni, Gottselig, Jaumotte, Ricci, & Tokarick, 2008; World Bank, 2021).

Moreover, globalisation can enhance the quality of life in rural communities by transforming rural agriculture into a more marketed and value-based (Mahadevan, 2003). Exchange rates (ER) and foreign direct investment (FDI) are essential in the global agriculture sector. Providing an income source outside primary agriculture in emerging countries is crucial in encouraging agricultural expansion and value addition (Ghazal, Qasim, & Sabah, 2021). A positively correlated pattern has been observed between the ratios of FDI inflows and actual GDP growth rate (Lv, Wen, & Xiong, 2010; Manamba Epaphra, 2017). Based on the study of the impact of EG on AVA in 17 developing nations, including India and Bangladesh, it is revealed that FDI and agricultural exports have significant benefits for AVA in these countries, while exchange rates have no impact. (Nugroho, Bhagat, Magda, & Lakner, 2021). According to a study conducted by Ganewatta, Waschik, Jayasuriya, and Edwards (2005), ER has little to no impact on the longer-term supply of value-added tea exporters in Sri Lanka.

Employment in agriculture (EA) refers to working age of employees engaged in any activity to produce agricultural goods or offer services for compensation or profit (World Bank, 2021). Numerous earlier studies have shown that EA affects AVA in South Asian nations significantly, both positively and negatively (Bogodage, Dharmadasa, Senaratne, & Samaraweera, 2021; Dolan & Sorby, 2003). Fertiliser consumption (FC) has been instrumental in boosting the AVA of South Asian countries and continues to play a crucial role today. Several previous studies conducted in Nepal, India, Bangladesh, and Pakistan confirmed that the use of the correct type, mixture & level of fertilisers increases agricultural productivity and output (Rajeb, Hossain, & Chakraborty, 2017; Takeshima, Adhikari, Shivakoti, Kaphle, & Kumar, 2017; Tewatia, 2012).

Globalization can facilitate the evolution of rural agriculture into a more commercialized and value-oriented sector, leading to better living conditions for rural communities in India. One of the means of increasing productivity in value-added agricultural activities is through the export of agricultural products and the value-added process (Mahadevan, 2003).

According to FAO (2017) EG helps to increase investment in infrastructure, and post-harvest minimum payments, to accommodate higher production. In addition, EG has allowed for increased value - added production in the agricultural sector to participate in global value chains, creating high-value agricultural products.

The study provides a comprehensive analysis of the impact of EG on AVA in the SAARC countries (Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka) from 2000 to 2021 and it emphasizes the crucial role of (EG) factors, including FDI, EA, ER and FC in the global agricultural sector by addressing the gaps found in earlier studies by adding to the body of knowledge in three important areas.

Firstly, the study analyses the impact of economic globalization on agricultural value added (AVA) in SAARC countries from 2000 to 2021. It contributes to the current knowledge base by investigating the combined impact of EG variables on AVA in the Asian region which has shown a high AVA in recent decades and provides a country-specific analysis to allow for a nuanced understanding of the relationship between EG and AVA.

Secondly, multiple linear regression (MLR) is used in this study to analyse time series data, which gives a more precise and dynamic view of how EG influences AVA over time. This study can shed light on the long-term viability of agricultural methods and policies in the SAARC region by analysing the changes in EG and AVA over the past two decades.

Finally, this study examines a different set of variables and time frames, contributing to the field of knowledge by filling gaps in the literature. Overall, this study aims to provide a more in-depth understanding of the factors that contribute to the high AVA in the SAARC region and the role of EG in this achievement. Policymakers and investors can use the findings to promote sustainable growth in a SAARC country's food and agriculture sector.

Research Objectives

The main objective of this study is to analyze the impact of Economic Globalization on Agriculture value addition in SAARC countries. In particular, the study will investigate the relationship between various factors associated with Economic Globalization, including Fertilizer Consumption, Employment in Agriculture, Agriculture, Exchange Rates, and Foreign Direct Investment, and their impact on Agriculture value addition. Despite the importance of this topic, there have been relatively few studies conducted on the impact of Economic Globalization on Agriculture value addition income in the SAARC region. As a result, there are several knowledge gaps in the literature, particularly regarding the specific factors that contribute to Agriculture value addition in the SAARC region.

Firstly, it contributes to the current knowledge base by investigating the combined impact of EG variables on AVA in the Asian region which has shown a high AVA in recent decades and provides a country-specific analysis to allow for a nuanced understanding of the relationship between EG and AVA.

Secondly, multiple linear regression (MLR) is used in this study to analyse time series data, which gives a more precise and dynamic view of how EG influences AVA overtime.

Thirdly, the study uses a longer time frame of 21 years, which is comparatively higher than that of similar studies conducted using the panel regression technique in the global context. This allows for a more comprehensive analysis of the impact of Economic Globalization on Agriculture value addition.

Finally, the study's findings have important implications for policymakers and agricultural stakeholders, as they shed light on the factors that contribute to the development of the agriculture sector. The study's results can inform policy decisions related to trade, investment, and technology adoption in the agriculture sector, which can ultimately lead to higher agriculture value addition and economic growth.

By offering a more thorough and current evaluation of the influence of economic globalization on agriculture value addition income, this study seeks to close these gaps. This study can aid in the creation of policies and strategies to support sustainable agricultural development and enhance the livelihoods of farmers and rural communities in the SAARC region by identifying the primary drivers of agriculture value addition across various income categories and geographical areas.

Literature Review

Numerous prior studies have shown that EG affects AVA both negatively and favourably. Several factors, including EG, primarily influence the type of AVA output produced in a nation. This literature review examines the impact of EG on AVA in the SAARC countries by analysing past studies, with a focus on various variables that contribute to this relationship.

Foreign Direct Investments

The studies that have been undertaken to assess how EG influences AVA at utilising FDI have been discussed in this section. FDI is a critical factor in agricultural production through technology transfer and skills that benefit farmers in the host country (Nyiwul & Koirala, 2022). Furthermore, understanding the correlation between FDI and AVA can yield significant insights into optimising the advantages of FDI for the agricultural sector and, by extension, the economic growth of developing countries (Manamba Epaphra, 2017). Another study found that FDI and agricultural export values have significant effects that can increase AVA in developing countries (Nugroho et al., 2021). Dhungana (2013) stated that FDI in the agriculture sector had played an essential role in modernising India's food and retail sector and meeting the growing demand.

Exchange Rate

This section examines the studies on how ER affects AVA in SAARC countries. The ER between two currencies determines how much each is worth. ER affects the inputs, prices of agricultural commodities and, subsequently, the farmers' profits. Most international agricultural transactions are conducted in US dollars (Alberta). According to Nugroho et al. (2021), the ER of 17 developing countries, including India and Bangladesh, fluctuate so much that it does not affect AVA. A study in Sri Lanka by Ganewatta et al. (2005) found that exchange rate changes don't significantly impact the supply of value-added tea exports, this suggests that policymakers need alternative strategies to encourage tea producers to add more value to their products, such as investing in processing infrastructure or providing training and incentives for value-added production. Another study was investigated by Fiaz, Malik, Khurshid, and Ul (2021) in Pakistan, 'the study used both ARDL and NARDL approaches to investigate exchange rate effects on agriculture. NARDL found that negative movements have greater impacts than positive movements in the short and long run. Policymakers may need to use measures like currency hedging or exchange rate stabilization funds to mitigate risks and stabilize the sector.

Employment in Agriculture

As countries develop, it has been observed that the proportion of the population working in the agriculture sector decreases. While in low-income countries, more than two-thirds of the population work in agriculture, in high-

income countries, less than five per cent of the population is thus engaged (Roser, 2013). A study conducted in South Asia asserted that increasingly favourable agricultural business conditions ought to attract private investment in agriculture, increasing agricultural outputs and demand for rural labour. There is clear evidence of increased private agricultural investment, especially since the late 1980s, many past researchers demonstrate that EA has positive and negative significant influences on AVA in South Asian countries. However, many past findings demonstrate that the percentage of women working in agriculture is a significant factor in determining the increase of AVA (Bogodage et al., 2021; Dev, 2000; Dolan & Sorby, 2003; S. Rahman, 2000).

Fertilizer Consumption

Fertilisers have been crucial in raising AVA in South Asian countries, and they continue to do so. Many past findings in Nepal, India, Bangladesh, and Pakistan claim that suitable fertilisers boost agricultural productivity and output. Hence, using chemical fertilisers has become essential in raising AVA (Rajeb et al., 2017; Takeshima et al., 2017; Tewatia, 2012). Fertiliser consumption can significantly impact agriculture 167 value addition in SAARC (South Asian Association for Regional Cooperation) countries. 168 Agriculture is a crucial sector for these countries and contributes significantly to their GDP and 169 employment. In addition, fertilisers are vital in enhancing agricultural productivity by 170 providing essential nutrients to crops, leading to increased yields and improved quality (FAO, 2017).

Methodology

The data collection had observations about time series data throughout, and multiple linear regression was used to analyse the data. Data from the SAARC nations (Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka) were gathered to analyse the study's objectives. The timeframe for the data was from 2002 to 2021. The secondary data gathered from reliable sources was used to analyse the effect of EG on AVA in the SAARC countries. Stata statistical software was used to examine the data. AVA, FC, EA, ER, and FDI were the variables under which data were gathered. Data sources and variables are shown in *Table 1 - Data sources and variables*

Table 1 - Data sources and variables

Variable	Definition	Measure	Source
AVA	Agriculture, forestry, and fishing, value added	(% of GDP)	The World Bank https://data.worldbank.org/indicator/NV.AGR.TOTL.ZS
FC	Fertilizer Consumption	(Kilograms per hectare of arable land)	The World Bank https://data.worldbank.org/indicator/AG.CON.FERT.ZS
EA	Employment in Agriculture	(% of total employment) (modelled ILO estimate)	The World Bank https://data.worldbank.org/indicator/SL.AGR.EMPL.ZS
ER	Exchange Rate	(LCU per US\$, period average)	The World Bank https://data.worldbank.org/indicator/PA.NUS.FCRF
FDI	Foreign Direct Investment	(Net inflows % of GDP)	The World Bank https://data.worldbank.org/indicator/BX.KLT.DINV.WD.GD.ZS

Source: Compiled by authors

All the variables that make up the mathematical model used in this study are listed.

Equation 1:

$$AVA_t = \beta_0 + \beta_1(FC_t) + \beta_2(EA_t) + \beta_3(ER_t) + \beta_4(FDI_t) + \epsilon_t$$

In SAARC countries, *Equation 1* has been established. The equation models the impact of four independent variables on the dependent variable AVA_t . In *Equation 1*, AVA_t represents the value of the dependent variable at time t , and ϵ_t represents the residual error term for time t . The coefficients β_0 , β_1 , β_2 , β_3 and β_4 represent the intercept and slopes of the regression line, which describe the impact of the independent variables on the dependent variable AVA_t .

The study found that forest loss is linked to the growth of the urban population and the exportation of agricultural products, as indicated by both multiple linear regression and regression tree methods of analysis (Defries, Rudel, Uriarte, & Hansen, 2010). In other words, an increase in urban population and agricultural exports is positively correlated with the loss of forests.

The following variables had missing values filled in using Stata's "ipolate" and "epolate" functions: 2002 in the AVA variable for the Maldives, 2021 in the FC variable, and 2020 and 2021 in the EA variable for all SAARC countries. However, there were no missing values in the FDI or ER variables.

Key Findings and Discussion

Table 2 provides descriptive statistics for five variables (AVA, FC, EA, ER, FDI) for SAARC countries. The table shows the number of observations (Obs), mean, standard deviation (SD), and minimum and maximum values for each variable in each country. From 2002 to 2021, there were 160 total observations included here, with 20 observations corresponding to each SAARC country. The table shows that Maldives has the lowest mean AVA at 5.77, while Nepal has the highest mean AVA at 27. Furthermore, Afghanistan has the lowest FC mean at 6.39, Bangladesh has the highest FC mean at 246.0 and Sri Lanka has the second-highest FC mean at 242.42. The EA mean value is highest in Nepal at 68.94 and lowest in Maldives at 12.53. Sri Lanka has the highest ER at 130.10 and the Maldives has the lowest at 14.17. Finally, FDI mean values vary widely, with Maldives having the highest at 8.36 and Nepal having the lowest at 0.26.

Furthermore, SD measures the variability or spread of the data from the mean, with a larger SD indicating more variability. According to the results, SD varies across the countries and variables. For example, SD for FDI is generally low for all countries, indicating relatively low variability in this variable. On the other hand, the SD for FC is generally higher.

Table 2 - Descriptive Statistic for South Asia Countries

Countries		Variables				
		AVA	FC	EA	ER	FDI
Afghanistan	Obs.	20	20	20	20	20
	Mean	27.50113	6.397836	52.726	57.50669	1.080803
	SD	4.893328	5.061035	8.21189	11.2558	1.273452
	Min	20.63432	1.77786	41.24	46.45246	0.0643889
	Max	38.62789	20.45253	64.42	77.73795	4.352575
Bangladesh	Obs.	20	20	20	20	20
	Mean	15.94512	246.0061	46.0165	73.573	0.8807268
	SD	2.782817	57.73296	6.314542	9.014947	0.4340345
	Min	11.63286	160.2669	36.12	57.888	0.0955794
	Max	20.58413	325.8039	59.9	85.08376	1.735419
Bhutan	Obs.	20	20	20	20	20
	Mean	17.07867	12.3801	59.506	55.59772	1.150156
	SD	2.984799	4.514534	3.384615	11.36862	1.649614
	Min	13.96398	6.942308	55.1	41.34853	-0.675563
	Max	23.20139	23.96	65.3	74.09957	6.321598
India	Obs.	20	20	20	20	20
	Mean	17.17827	160.1623	49.36	55.59666	1.730501
	SD	0.9658713	32.68549	5.817281	11.36681	0.6978698
	Min	16.03163	100.3291	41.13999	41.34853	0.6058893
	Max	19.592	232.3603	58.6	74.09957	3.620522
	Obs.	20	20	20	20	20

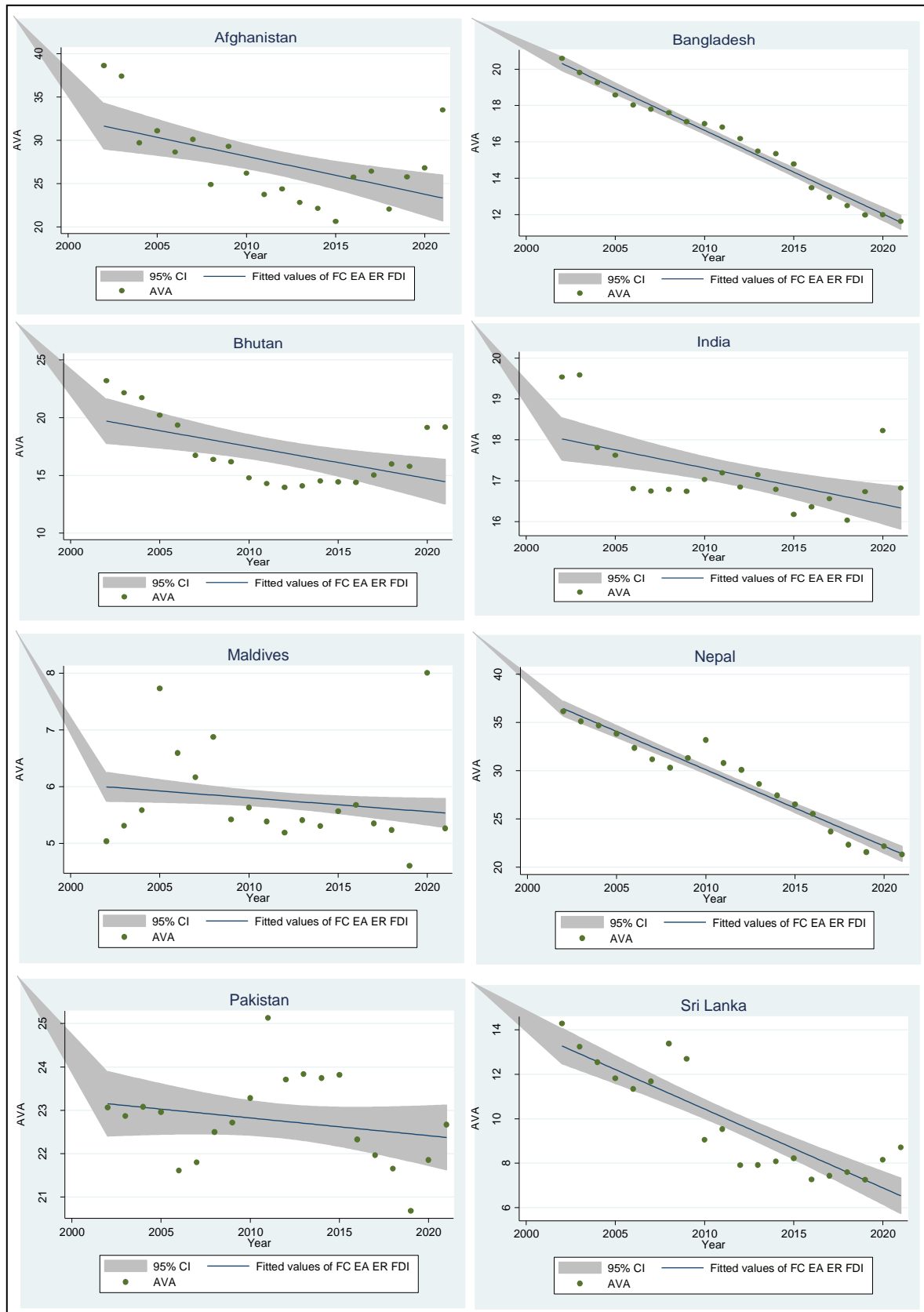
Countries		Variables				
		AVA	FC	EA	ER	FDI
Maldives	Mean	5.767525	76.55859	12.534	14.17813	8.363178
	SD	0.8813878	51.52002	3.629168	1.290119	3.774624
	Min	4.603988	6	7.74	12.8	2.755601
	Max	8.004879	193.5231	18.5	15.39084	17.13262
	Obs.	20	20	20	20	20
Nepal	Mean	28.91081	43.83422	68.9465	89.0516	0.2657441
	SD	4.826279	37.68897	3.46911	17.9304	0.2310492
	Min	21.31989	1.364865	62.97999	66.41503	-0.0983749
	Max	36.1503	116.6796	74.19	118.3452	0.6774399
	Obs.	20	20	20	20	20
Pakistan	Mean	22.76302	132.4045	41.467	94.28194	1.199847
	SD	1.020893	17.97878	2.668107	33.82545	0.9806796
	Min	20.67787	97.78475	35.92	57.752	0.3828265
	Max	25.12918	157.9165	44.7	162.9063	3.668323
	Obs.	20	20	20	20	20
Sri Lanka	Mean	9.903575	242.4209	31.4045	130.1005	1.193066
	SD	2.415107	71.85458	5.1809	31.16454	0.3844571
	Min	7.256247	117.3936	23.94	95.66206	0.5083467
	Max	14.27932	406.3321	40	198.7643	1.863973

Note: Obs., Mean, SD, Min. and Max. represent Observations, Standard Deviation, Minimum value, and Maximum value, respectively. Source: Authors' calculation based on data from the world bank.

Finally, the analysis provides valuable insights into the variation in key economic indicators across the SAARC Countries that can assist policymakers and researchers in making informed decisions to promote regional economic growth and development.

Figure 1 Illustrates the dependent variable and years of the fitted values for FC, EA, ER, and FDI for the SAARC nations displayed in the following graphs. The green dots represent each value from 2002 to 2021. Data points with outliers for some nations and a regression line that kept below the 95% confidence interval were included.

Figure 1-Scatter plots for Dependent variable in SAARC Countries



The MLR results in *Table 3* present the impact of EG on AVA in SAARC countries. The independent variables used in the model are FC, EA, ER, and FDI.

Table 3 shows the estimated coefficients and their standard errors for each independent variable in each country. The coefficient estimates represent the effect of a unit change in the respective independent variable on AVA. The standard error represents the variation in the coefficient estimate due to chance.

Agriculture has immense potential to contribute to Afghanistan's economic growth and development, with a potential 7.5% increase in economic growth by 2024. It employs 45% of the workforce and 22.8% of self-employment and family businesses (Attal, 2022). With agriculture serving as the bedrock of Afghan livelihoods, the sector's significance cannot be overstated in the country's economy. With agriculture serving as the bedrock of Afghan livelihoods, the sector's significance cannot be overstated in the country's economy. A past study shows agriculture contributes to at least 25 per cent of the GDP and sustains 80 percent of all means of livelihood (FAO). The present study identified that EA and ER have a positive and statistically significant effect on the sector's growth, while FC is insignificant with AVA. This finding underscores the importance of labour and ER policies in boosting agricultural growth in Afghanistan.

The finding that FC has a negative impact on AVA is a cause for concern in Bangladesh, as fertilizer use is often promoted as a key strategy to increase crop yield and improve soil fertility. Further investigation is needed to understand why increasing FC leads to a decrease in AVA in Bangladesh, as this finding contradicts the general belief that higher fertilizer use is beneficial to the agricultural sector. On the other hand, the finding that increasing EA and ER both increase AVA is consistent with what might be expected, as labor and exchange rate policies are known to impact the sector's growth. However, it is important to consider the broader socioeconomic context in which agriculture operates when assessing the impact of these policies. The finding that FDI is statistically significant in impacting AVA also raises questions about the role of foreign investment in the agricultural sector. While foreign investment can bring much needed capital, technology, and expertise to the sector, it can also lead to the concentration of resources and power in the hands of a few large corporations, leading to a decline in smallholder farming. Finally, the study's conclusion that more extension contact reduces chemical fertilizer use, leading to increased profits and yields in agriculture, underscores the importance of promoting sustainable farming practices. Extension services play a critical role in disseminating information and knowledge to farmers, and efforts should be made to enhance their effectiveness and reach (M. M. Rahman & Connor, 2022).

Bhutan's agricultural sector has the potential for diversification, but poor and marginalized farmers face challenges such as limited infrastructure, information, credit, and technological knowledge. This situation limits their ability to diversify and hinders their economic growth. (Tobgay, 2006). The present study found the significant impact of EA on AVA in Bhutan and highlighted the importance of promoting policies that enhance employment opportunities in the agricultural sector. The creation of employment opportunities can lead to value addition, which can, in turn, lead to higher incomes and improved livelihoods. This finding underscores the critical role of the agricultural sector in promoting sustainable development and reducing poverty. And also past study indicates that by investing in the agricultural sector and creating more employment opportunities, value addition can be increased, leading to higher incomes and improved livelihoods (Tobgay, 2006). Furthermore, the positive significant impact of ER on AVA also highlights the importance of ER policies in promoting the agricultural sector's growth. The ER can impact the cost of production and the competitiveness of agricultural products in the global market, affecting farmers' profitability and the sector's overall growth. Therefore, ER policies should be carefully crafted to promote the agricultural sector's growth and competitiveness.

With nearly 70% of the population dependent on agriculture in India, the sector's significance cannot be overstated. The sector's contribution to the country's economy is significant, with it being a major source of income and employment for millions of people. However, the sector faces several challenges such as inadequate infrastructure, limited access to credit, and technological know-how, which hinder its growth and development (Kumar & Raghavendra, 2019). The study's findings emphasize the need to prioritize investments in the agriculture sector to create more employment opportunities, enhance productivity, and increase the sector's contribution to the economy. The creation of employment opportunities can lead to value addition, which can, in turn, lead to higher incomes and improved livelihoods. This underscores the critical role of the agricultural sector in promoting sustainable development and reducing poverty in India. Furthermore, the present study identified that the significant impact of EA on AVA highlights the importance of promoting policies that enhance employment opportunities in the

agricultural sector. The creation of employment opportunities can improve the sector's overall productivity, which can, in turn, enhance its contribution to the country's economy. This finding underscores the need to prioritize investments in the agricultural sector to create more employment opportunities and enhance its overall productivity. The present study also highlights that ER significantly impacts AVA in India. However, earlier studies show that discriminatory trade policies and an overvalued ER, challenges the sector. Policy makers must address these issues and implement effective trade policies, prioritizing local farmers' needs to ensure sustainable growth in the Indian agricultural sector (Pardeep, 2011).

The finding that none of the independent variables has a significant impact on AVA in the Maldives raises questions about the effectiveness of current agricultural policies and practices in the country. It is important to note that agriculture is a critical sector for food security in the Maldives, which relies heavily on imports for its food supply. Therefore, the lack of significant impact on AVA could potentially lead to food security issues in the future. The emphasis on agricultural policies and farmer training in past studies highlights the need for investment in the sector to promote sustainable farming practices and enhance productivity. The absence of a statistically significant impact on AVA in the present study could also be attributed to the need for further research and data collection on the agricultural sector in the Maldives (Shafeeqa & Abeyrathne, 2022). Overall, the present study's findings highlight the need for policymakers in the Maldives to review and adjust current agricultural policies and practices to ensure sustainable growth in the sector. Investing in appropriate resources, such as training and infrastructure, could help improve the sector's performance and increase AVA. Further research could also help identify other factors that could impact AVA in the Maldives and guide policymakers in making informed decisions about the sector's future.

While the earlier studies in Nepal highlighted the significance of physical capital in promoting AVA (Tuladhar, Sapkota, & Adhikari, 2014), the present study suggests that a broader approach is required to promote sustainable agricultural practices and achieve economic growth. By considering all the independent variables, policymakers can identify the most effective interventions to enhance the agricultural sector's performance. However, it is important to note that the impact of these variables may vary across different regions and farming systems within Nepal, and a tailored approach may be required to ensure sustainable and equitable agricultural development. Additionally, the role of social and cultural factors in shaping agricultural practices and outcomes should not be overlooked, and a comprehensive approach that takes into account both physical and socio-cultural factors may be needed to promote sustainable agricultural development in Nepal.

The present study further reveals that employment in agriculture has a significant impact on AVA in Pakistan. On the other hand, past studies emphasise the significance of the agriculture sector as a significant source of employment and GDP contribution in Pakistan, primarily based on major crops such as wheat, rice, and sugarcane (Shafique, 2017). Both studies emphasise the crucial role of agriculture in Pakistan's economy and the need for policymakers to consider various factors such as employment opportunities, making a skilled workforce available for value addition, and crop diversification when formulating strategies for sustainable agricultural growth. In addition, past studies examined the impact of trade openness and FDI on the agriculture sector in Pakistan. They found a positive association between agriculture, trade openness, and FDI but a negative one with gross fixed capital formation. The present study found FDI to be statistically significant in AVA in Pakistan. Both studies highlight the importance of FDI in promoting sustainable agriculture and economic growth in Pakistan (Rasheed, Shafi, & Zafar, 2021).

Past and present studies highlight the significance of employment in Sri Lanka's agriculture sector, which accounts for nearly a quarter of the country's total employment. The present study emphasises the importance of EA for enhancing AVA in Sri Lanka, highlighting the need for sustainable agricultural practices to create more job opportunities and boost the sector's contribution to the economy (TRADING ECONOMICS, 2023). Both prior and current investigations underscore the substantial influence of currency ER on the agricultural industry in Sri Lanka. Whereas the former paper assesses the performance of the agricultural sector under policy modifications, the latter study concentrates on the correlation between currency ER and AVA. These studies indicate that currency ER modifications have played a vital role in advancing agriculture exports and economic growth in Sri Lanka while revealing the detrimental effects on local food production and small-scale farmers. These findings can offer valuable guidance to Sri Lankan policymakers on balancing the advantages and drawbacks of currency ER reforms for the agriculture sector (Yamaguchi & Sanker, 2006). Furthermore, according to the present study, FC has a significant positive impact on AVA.

Table 3-MLR Model Results for South Asian Countries

Variables	Afghanistan	Bangladesh	Bhutan	India	Maldives	Nepal	Pakistan	Sri Lanka
	AVA	AVA	AVA	AVA	AVA	AVA	AVA	AVA
FC	-0.0683862 (.2540364)	-0.0220137*** (0.0047102)	-0.0999673 (0.0609011)	0.0098566 (0.0091569)	-0.001972 (0.0036107)	0.0779865** (0.03482)	-0.0168048 (0.010621)	0.0084255** (0.0032391)
EA	1.116679*** (.3121426)	0.3044572*** (0.0336425)	1.436848*** (0.1615178)	0.3071219*** (0.1038559)	-0.1306081 (0.148711)	1.836714*** (0.1939111)	0.4575733*** (0.1151445)	0.5034003*** (0.0889136)
ER	0.5713991*** (0.1619719)	0.0406485 (0.0313764)	0.3258371*** (0.076833)	0.0972634** (0.0452597)	-0.4394883 (0.2892196)	-0.102046* (0.0560251)	0.0208431* (0.009853)	0.0260531* (0.0148671)
FDI	-1.157361 (0.9961337)	0.5035531** (0.2255491)	0.036958 (0.1231259)	-0.3462324 (0.2192266)	-0.0265401 (0.0572102)	3.495539** (1.327205)	-0.6797446*** (0.1336281)	0.5715101 (0.7000757)
Constant	-62.54778	3.916436	-85.34309	-4.368282	14.00862	-92.98421	4.86432	-12.01935
Observation	20	20	20	20	20	20	20	20
No. of years	20	20	20	20	20	20	20	20
R² Squared	0.6204	0.9797	0.7895	0.6336	0.1236	0.9748	0.6715	0.8835

*Note: The symbols *, **, and *** represents 10%, 5%, and 1% significance level, respectively. Parentheses represent the robust standard error.*

Conclusion

The present study determined the impact of EG factors FC, EA, ER, and FDI on AVA in SAARC countries. The MLR adopted in this research covered eight countries and territories for around 20 years, from 2002 to 2021. The analysis of the impact of EG factors on AVA in SAARC countries reveals some unique insights. Afghanistan, Bhutan, and India benefit from investing in EA and ER to increase AVA. In contrast, Bangladesh should be cautious about FC as it harms AVA. However, they could leverage EA and FDI to enhance AVA. The findings suggest Nepal should focus on all independent variables to increase AVA. Pakistan can capitalise on EA and ER to enhance AVA while being careful about FDI, which has a negative impact. Finally, Sri Lanka should invest in FC, EA, and ER to increase AVA.

Overall, it is recommended that policymakers in these SAARC countries utilise these insights to guide their investment and policy decisions, which could positively impact value addition in agriculture. Furthermore, future research could examine the impact of other factors, such as technology, infrastructure, and government policies, on agriculture value addition in these countries.

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ANALYSING STREAM PREFERENCE FACTORS WITHIN THE BACHELOR OF MANAGEMENT STUDIES DEGREE PROGRAMME SELECTION

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Abstract

This study investigates the factors influencing the choice of specialization areas within the Bachelor of Management Studies (BMS) New Degree Program at the Faculty of Management Studies, Open University of Sri Lanka. An online questionnaire was distributed, and 118 potential candidates replied. The researcher used three influencing factors, personal, family and peers, against selecting four specialization areas: management, Accounting and Finance, Marketing Management and Human Resources Management. According to the analysis, family and personal factors significantly influenced the decision to select specialization areas of the BMS degree programme. However, peer influence did not have a significant impact on the decision. Further, neither age nor gender influenced the selection of the specialization areas in the BMS degree programme. These findings provide valuable insights for the university's faculty and administrators, helping them better understand the factors driving students' preferences of the specialization areas. They may also inform strategies to enhance program offerings and support services to meet students' evolving needs.

Keywords: Stream Preference, Family Influence, Peer Influence, The Open University of Sri Lanka

Introduction

The process of selecting an academic stream is a pivotal decision for students pursuing higher education, shaping their educational and career prospects. This decision is particularly critical when considering degree programs like the Bachelor of Management Studies, where various streams and specializations are available. The Bachelor of Management Studies Degree Programme is a versatile academic pathway that equips students with fundamental knowledge and skills in management. Understanding the factors influencing students' preferences when selecting a specific specialization area within this program is paramount. This research investigates the underlying factors and determinants guiding students' choices within the Bachelor of Management Studies Degree Programme. It sheds light on the key drivers that steer their educational journey and, by extension, their future careers. By exploring these preferences, this study contributes to the development of educational strategies and program enhancements that align more closely with the aspirations and needs of students, ultimately fostering their academic and professional success.

Research Problem

The research problem at hand revolves around the critical decision-making process of students when selecting a specific academic stream within the Bachelor of Management Studies Degree Programme. Despite the program's versatility in providing essential management knowledge and skills, there is a lack of comprehensive understanding regarding the factors that significantly influence students' preferences and choices. This knowledge gap hinders the development of tailored educational strategies and program enhancements aimed at better aligning the program with the aspirations and needs of students, potentially impacting their academic and professional success. Thus, the research problem centers on identifying and comprehensively examining the key determinants that guide students' choices within this degree program and understanding how these choices impact their educational and career prospects.

Literature Review and Hypotheses Development

The process of selecting an academic stream within degree programs is a critical decision that can significantly impact students' educational and career prospects. The researcher explored existing literature that relates to the hypotheses concerning the factors influencing the selection of streams within the Bachelor of Management Studies Degree Programme offered by the Faculty of Management Studies of the Open University of Sri Lanka.

Hypothesis 1: Personal factors significantly influence the selection of specialization area.

Numerous studies have investigated the influence of personal factors on the choice of academic streams. Personal factors such as individual interests, aptitudes, and career aspirations have been consistently identified as key drivers of stream selection (Tracey & Sedlacek, 1984; Lent et al., 1994). For instance, Lent and Brown (2006) proposed a social cognitive career theory highlighting the importance of self-efficacy and outcome expectations in career decision-making. These personal factors are critical in shaping students' preferences for specific streams. The literature supports Hypothesis 1, suggesting a significant relationship between personal factors and the selection of specialization area.

Hypothesis 2: Peers significantly influence the selection of specialization area.

Peer influence plays a crucial role in students' educational and career choices. Peer group dynamics and recommendations from peers can significantly impact stream selection. Social identity theory (Tajfel & Turner, 1979) posits that individuals seek social approval and may conform to the choices of their peer groups. This is often reflected in stream selection, as students may select streams that align with the preferences of their peers. Several studies (Eccles et al., 1993; Crosnoe, 2011) have shown that peer influence can be a positive factor in the choice of streams. Hence, Hypothesis 2 is stated as follows.

Hypothesis 3: Family factors significantly influence the selection of specialization area.

Family, as an influential support system, can significantly impact educational choices. Parental guidance, socioeconomic background, and family expectations have been identified as essential factors in the stream selection process (Perna & Titus, 2005; Byun et al., 2012). Students often consider family preferences, values, and expectations when making academic decisions. The researcher indicates that family factors significantly influence the selection of specialization area, thus supporting Hypothesis 3.

Hypothesis 4: Gender influence on the selection of streams.

Gender has long been recognized as a significant factor in academic stream selection. Gender stereotypes and societal expectations often influence students' choices of streams (Lent et al., 2002). Research has consistently shown that males and females may determine different streams, often due to societal norms and gendered expectations (Kiefer & Shih, 2006; Diekman et al., 2011).

Hypothesis 5: Age influence on the selection of streams.

While age is less frequently studied than other factors, it plays a role in stream selection. Older students may have different motivations and preferences compared to younger ones. Some research (Malgwi et al., 2005) has indicated that age and career decision-making can be linked, with older students being more focused on practical aspects. However, the literature on age's influence on the selection of specialization area is relatively limited compared to other factors, indicating the need for further exploration.

This literature review provides substantial evidence to support Hypotheses 1 to 4, highlighting the importance of personal factors, peer influence, family factors, and gender in selecting streams within academic programs. Hypothesis 5, about age, is less explored and requires more research to establish a clear relationship. Understanding these factors is crucial for educational institutions and policymakers to develop effective strategies for stream selection and career guidance for students pursuing the Bachelor of Management Studies Degree Programme.

Following figure shows the conceptual framework of this study.

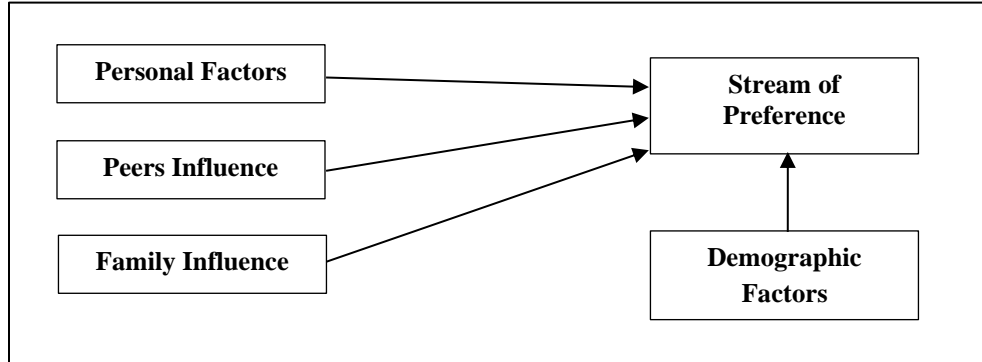


Figure 1: Conceptual Framework

Research Methodology

This study employed a quantitative research design to investigate the factors influencing the choice of streams within the Bachelor of Management Studies New Degree Program at the Faculty of Management Studies, Open University of Sri Lanka. A cross-sectional survey approach was used to collect data. Data was collected through an online questionnaire distributed to potential candidates considering enrolling in the Bachelor of Management Studies Degree Programme. In total, 118 potential candidates responded to the survey. The questionnaire included items related to personal factors, family factors, peer influence, gender, and age, as well as the selection of one of four subject streams: Management, Accounting and Finance, Marketing Management, and Human Resources Management. The key independent variables in this study were personal factors, family factors, and peer influence. These factors were assessed using a series of Likert-scale questions to measure the strength of their influence on stream selection. Gender and age were included as additional independent variables. The dependent variable was the selection of one of the four subject streams. To test the hypotheses and examine the factors influencing stream selection, multiple linear regression analysis was employed. This statistical method allowed us to determine the relationships between the independent variables (personal factors, family factors, peer influence, gender, and age) and the dependent variable (selection of subject stream). The analysis produced regression coefficients, significance values, and R-squared values to assess the strength and significance of the relationships.

Data Analysis and Presentation

The data presented in Table 01 categorizes respondents into different demographic and program-related groups. Regarding age, the largest group falls within the "26-35" category, comprising 69.5% of the total, followed by the "36-45" group at 11.8%. Notably, the "18-25" group represents 8.50% of respondents, while the "<55" group, with 3.40%, is the smallest. In the gender category, males dominate the sample, accounting for 72.9% of respondents, with females making up 27.1%. Regarding the selection of study streams within the Bachelor of Management Studies program, (Management) is the most favored, with 35.59% of respondents, followed by "Accounting" at 22.03%. "Colombo" is the predominant center where students pursue their degree, encompassing 56.8% of respondents, followed by "Kandy" at 19.5%. This table offers a clear perspective on the composition of respondents across these categories, aiding in understanding the demographic and program-related characteristics of the surveyed individuals.

Table 1: Profile of the sample

	Frequency	Percentage %
Age		
18-25	10	8.50
26-35	82	69.5
36-45	14	11.8
46-55	08	6.70
<55	04	3.40
	118	100
Gender		
Female	32	27.1
Male	86	72.9
	118	100
Stream		
Management	52	35.59
Accounting & Finance	34	22.03
HRM	18	15.25
Marketing	14	11.86
	118	100
Centers		
Colombo	67	56.8
Kandy	25	21.2
Matara	13	11.0
Anuradhapura	6	5.0
Kurunegala	7	6.0
	118	100

Source: Field Survey

Then, the confirmatory factor analysis was performed to ensure validity. The results appear in the table 2 below. Three independent variables like, personal factors, family factors and peer influence are clearly demarcated with the analysis. This supports to the assurance of convergent, discriminant validity and reliability.

Table 2: Factor Analysis

	Rotated Component Matrix ^a		
	Component		
	1	2	3
PF2_1	.805		
PF3_1	.746		
PF6_1	.682		
PF1_1	.674		
PF7_1	.671		
PF5_1	.618		
PF4_1	.532		
PI3_1		.792	
PI4_1		.740	
PI5_1		.705	
PI1_1		.704	
PI2_1		.667	
FI3_1			.845
FI4_1			.802
FI2_1			.740
FI1_1			.722

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 6 iterations.

Source: Field Survey

In the table 3 and 4 below summarize the followings. AVE (Average Variance Extracted): AVE is a measure of convergent validity. It indicates the proportion of the variance in the observed indicators explained by the underlying construct. In this table, for each variable, the AVE is provided. For "Personal Factors," it is 0.5; for "Peer Influence," it is 0.6, and for "Family Factors," it is 0.5. A higher AVE suggests a better convergent validity.

(AVE²): This column represents the square of the AVE, which provides an additional measure of convergent validity. It is useful for comparing with the correlations between constructs. Cronbach's Alpha is a measure of internal consistency reliability. It assesses how well the items within each construct are related to each other. Higher Cronbach Alpha values (ranging from 0 to 1) indicate greater reliability.

In this table, "Personal Factors" have a Cronbach Alpha of 0.821, "Peer Influence" is 0.838, and "Family Factors" are 0.860. These values suggest that the items within each construct are internally consistent. No of items column specifies the number of items or questions used to measure each construct. For instance, "Personal Factors" is measured using 7 items, "Peer Influence" uses 5 items, and "Family Factors" is assessed with 4 items.

The values of 0.414, 0.550, and 0.520 represent the correlations between MPF and MPI, MPI and MFI, and MPF and MFI, respectively. These values are less than (AVE²) in the diagonal, indicating that there is discriminant validity between these constructs.

Table 3: Output of measurement model

Variable	AVE	(AVE ²)	Cronbach Alfa	No of items
Personal Factors	0.5	0.7	0.821	07
Peer Influence	0.6	0.8	0.838	05
Family Factors	0.5	0.7	0.860	04

Source: Field Survey

Table 4: Discriminant Validity

Latent Variable	MPF	MPI	MFI
MPF	0.680		
MPI	0.414	0.780	
MFI	0.55	0.52	0.720

Source: Field Survey

After fulfilling validity and reliability thresholds following conceptual model was tested in order to run the regression model.

Table 5: Model Summaries

R	R Square	Adjusted R Square	Std. Error of the Estimate
.778a	.605	.594	.54430

a. Predictors: (Constant), MFI, MPF, MPI

The table 5 above presents statistical results from a regression analysis. The "R" (0.778) value signifies the correlation coefficient, offering insight into the strength and direction of the relationship between the dependent variable and the predictors. "R Square," or the coefficient of determination, reveals that the predictors account for 60.5% of the variance in the dependent variable, indicating their explanatory power. "Adjusted R Square" (0.594) adjusts for model complexity and further signifies the proportion of variance explained. In summary, these statistics collectively provide valuable insights into the model's strength and its ability to explain the variance in the dependent variable, shedding light on the relationships between the predictors and the outcome.

Table 6: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	51.695	3	17.232	58.163	.000 ^b
	Residual	33.774	114	.296		
	Total	85.469	117			

a. Dependent Variable: MSS

b. Predictors: (Constant), MFI, MPF, MPI

Source: Field Survey

The ANOVA table 6, serves to evaluate the statistical significance of the regression model, revealing the relationship between predictors and the dependent variable. In this study, the model is highly significant, affirming that at least one predictor significantly affects selection of streams.

Table 7: Results of Coefficients of Multiple Regressions

	Unstandardized Coefficients		Standardized Coefficients		Sig
	B	Std. Error	Beta	t	
(Constant)	.696	.281		2.480	.015
Personal Factors	.892	.077	.754	11.596	.000
Peer Influence	.075	.068	.083	1.099	.274
Family Factors	.153	.064	.166	2.403	.018

a. Dependent Variable: Selection of Streams

Source: Field Survey

Table 7 offers a comprehensive overview of coefficients derived from a multiple regression analysis with "Selection of Streams" as the dependent variable. These coefficients provide insight into the strength and significance of relationships between the dependent variable and independent variables like "Personal Factors," "Peer Influence," and "Family Factors." Remarkably, "Personal Factors" and "Family Factors" exert a highly significant positive impact on stream selection, while "Peer Influence" does not show any significant influence on Stream Selection. The standardized coefficients (Beta) enable a relative comparison of the importance of these predictors within the model, contributing to a comprehensive understanding of the factors influencing the selection of academic streams.

Table 8: Summary of Hypotheses testing

	Hypotheses	P values	Decision
H ₁	Personal Factors are positively related to selection of streams.	0.000	Accepted
H ₂	Peers are positively related to selection of streams.	0.274	Rejected
H ₃	Family factors are positively related to selection of stream	0.018	Accepted
H ₄	Gender influence on the selection of streams.	0.943	Rejected
H ₅	Age influence of selection of streams.	0.211	Rejected

*P<0.05

Source: Field Survey

The table 8, reveals the results of hypothesis testing. Hypotheses H₁ and H₃, concerning "Personal Factors" and "Family Factors," respectively, are accepted, demonstrating a significant positive relationship. In contrast, Hypotheses H₂, H₄, and H₅, pertaining to "Peers," "Gender," and "Age," are rejected, signifying no significant relationship in those cases. The asterisk (*) denotes a significance level of less than 0.05.

Discussion and Conclusion

The process of selecting an specialization are of an academic programme is a critical decision for potential students, especially in programs with multiple streams in the Bachelor of Management Studies Honours degree programme. This decision shapes their educational and career prospects significantly. Our study focuses on understanding the factors influencing stream selection within this program and its importance. The findings from this research highlight the significant influence of personal factors and family factors on stream selection. It is well-supported by existing literature that personal factors, including individual interests and career aspirations, play a pivotal role in academic choices. Additionally, family factors such as parental guidance and expectations are known to impact students' decisions. As such, accepting Hypotheses 1 and 3 aligns with established knowledge.

However, the role of peers in stream selection, as per Hypothesis 2, was found to be insignificant in our study, contrary to our initial expectations. Peer influence can indeed be substantial in educational decisions, but it appears that personal and family factors may take precedence in this context. Moreover, the hypotheses regarding the influence of gender and age on stream selection were also rejected, indicating that these factors may not significantly affect students' choices within the Bachelor of Management Studies Honours Degree program.

In conclusion, understanding these determinants helps to the Faculty of Management Studies of the Open University of Sri Lanka to develop effective strategies for stream selection and career guidance, enhancing the overall educational experience and success of students in the Bachelor of Management Studies program Honours Degree Programme.

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