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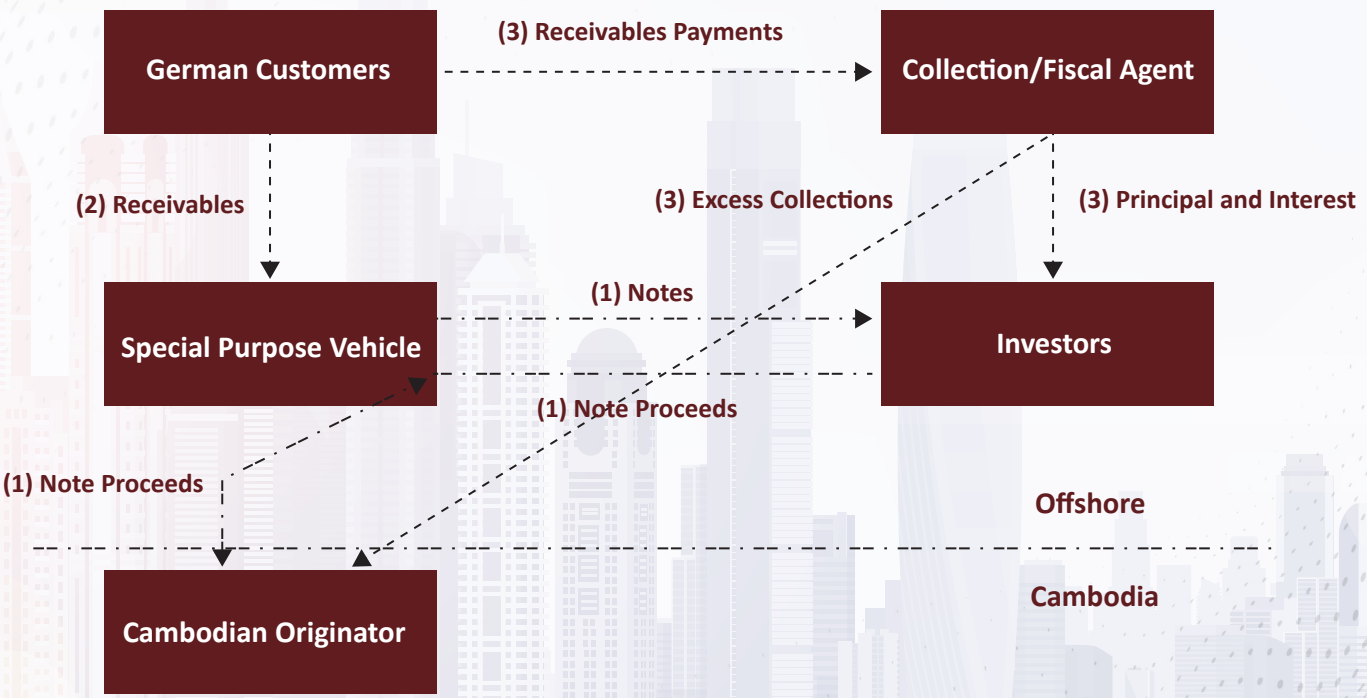
Example of a Receivables-Based Financing



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Welcome Message from Chairman

Welcome to the second Issue of CamEd Business Review!

In ensuring that there is diversity in research interests, this second issue reflects ideas relevant to business transactions, technological developments, accounting and broader social issues that impact our life. In this issue we welcome a thoughtful contribution from our former visiting professor Charles Whitehead from Cornell Law School, a leading scholar in his own right. As always, our faculty members continue to shine through their works illuminating the following pages. Our professors are encouraged to publish what is relevant to their classes as well as what may be useful to the bigger business community. For this reason, works that draw conclusions from comparative insights which may benefit Cambodia are welcomed.

As we try to bring practical issues from various disciplines to benefit our readers, we strongly call on practitioners here and abroad to contact us to check whether their works can be published in our Review. In the meantime, have a good read through and feel free to contact us at: cbreview@cam-ed.com

Thank you to our Editor-in-Chief and all the members of the editorial board for their generous time. Lastly, I also would like to thank the media and IT teams for their additional hours of working till late.

Until next time!

Best wishes,

Dr. Virak Prum

Chairman & Professor, CamEd Business School

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The Potential of Receivables-Based Financing for Cambodian Companies

By Charles K. Whitehead
Myron C. Taylor Alumni Professor of Business Law, Cornell University Law School
Visiting Professor, CamEd Business School

Many successful companies in emerging markets, such as Cambodia, are capped at the credit rating of the country in which they are located. The ceiling reflects the assessment of the international credit rating agencies (such as Standard & Poor's and Moody's) of the country's sovereign risk, not the company's standalone risk. No matter how strong the company is, its credit rating cannot exceed the country's sovereign rating. As of May 16, 2024, Moody's rated Cambodia B2; obligations rated B2 are considered speculative and a high credit risk.

Country Credit Ceiling. For this article's purposes, Cambodia's country credit rating has two important implications: First, international lenders vary the rate they charge on loans based on a borrower's riskiness, which for a Cambodian company can never be higher than Cambodia's B2 rating. The greater the risk, the greater the interest rate. Second, international lenders manage their risk exposures at both country and borrower levels. A low country credit rating will restrict the country's access to global capital, since international lenders will cap their exposure to the country. Thus, Cambodia's credit ceiling limits the availability of credit for Cambodian companies.

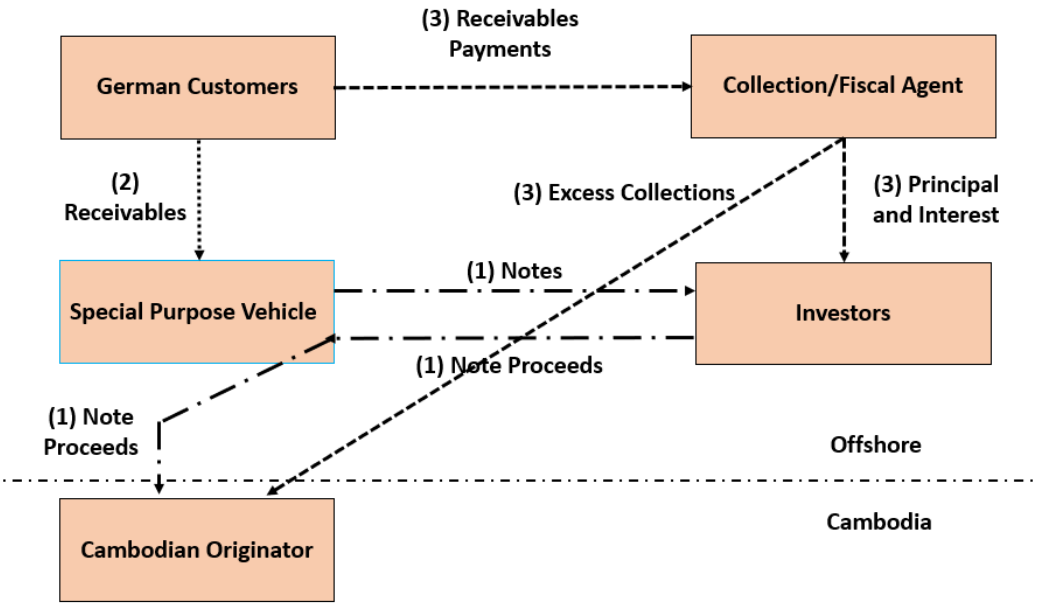
Structured Finance Solution. Through a structured finance solution, can Cambodian companies bypass Cambodia's credit ceiling and, thereby, lower their cost of borrowing? One option is receivables-based financing, a form of securitization that may offer a solution for Cambodian companies that regularly export products to customers in countries that are not subject to the same credit ceiling as Cambodia. In general, in a securitization, pools of similar financial assets (such as export receivables) are pooled and transformed into securities sold to investors. Future cash flows from the receivables are used to pay amounts owed under the securities. This process provides liquidity to the Cambodian originator, and helps mitigate credit risk and potentially lower the originator's borrowing costs. The result is better access to capital for operations and growth.

In effect, receivables-based financing may permit a Cambodian company to raise funds against the credit quality of its receivables—reflecting the ability of the customers to pay the receivables, rather than the credit rating of Cambodia or the Cambodian company. Pooling receivables from a diverse group of customers can further lower an investor's credit risk exposure and, in turn, reduce the cost of invested capital. The effective cost of capital is often lower than if the Cambodian company were to borrow directly.

Receivables-Based Financing. How does it work? To illustrate, we will use the hypothetical example of a Cambodian textile manufacturer ("Originator") that regularly exports clothes to one or more European retailers in Germany ("Customers"). (For simplicity, we will assume that there is just one Originator in this example. In fact, a single Originator may not have a sufficient amount of receivables to make a receivables-based financing structure attractive. In that case, it may be possible to pool receivables across multiple Originators to create a sufficient size.) In the ordinary course, the Originator issues invoices to its Customers, against the delivery of the exported goods, which each Customer is obligated to pay ("Receivables") within a standard time period. The Receivables in this example are denominated in euros, a stable foreign currency, reducing exchange rate risk.

The Originator will have set up a "bankruptcy-remote" special purpose vehicle ("SPV") in a jurisdiction outside Cambodia that has an investment grade sovereign credit rating. Bankruptcy remoteness is achieved by law and by the SPV's organizational documents. It means that the SPV's assets belong only to the SPV; the Originator's creditors cannot claim them, and vice versa. The SPV's sole purpose is to purchase Receivables from the

Example of a Receivables-Based Financing



Originator and issue notes ("Notes") to raise funds to pay for the Receivables. The SPV will not have any other creditors and will operate as a separate entity from the Originator.

In this example, perhaps to fund ongoing operations, the Cambodian Originator wishes to borrow money at a lower rate than if it were to borrow directly. Please refer to the graph above. The numbers below correspond to the numbers in the graph.

(1) To raise funds, the SPV issues Notes to Investors. The SPV will use the Notes' proceeds to purchase the Receivables. Payments that the SPV (or a Collection Agent, on its behalf) receives on the Receivables will be used first to repay amounts owed to the Investors (as well as any fees, e.g., to the Collection/Fiscal Agent). The SPV will also agree with the Originator to pay the Originator any excess money it receives on the Receivables after the Notes and other fees have been paid in full.

(2) Immediately upon creation, the Originator will sell the euro-denominated Receivables to the SPV at a discount ("Discount") to the face value of the Receivables ("Purchase Price"). The SPV will pay the Originator for the Receivables in euros, rather than waiting for the Receivables to be paid in the ordinary course, providing the Originator with quicker access to funds. The amount of the Discount will depend on factors such as the Customers' credit quality and their historical delinquency rate; riskier Customers and higher delinquencies will result in a higher Discount.

(3) The Originator will direct its Customers to make payments on the Receivables to the SPV (or the Collection Agent, on its behalf), not the Originator. The Collection Agent may also act as the Fiscal Agent on the Notes. The Fiscal Agent will use the payments it receives on the Receivables to pay the principal and interest on the Notes and, if there is any remaining excess, to pay that amount to the Originator.

Lowered Cost of Borrowing. Note that the SPV's credit risk will be based on the quality of the Receivables it owns—which reflect the higher credit rating of the German Customers who are obligated to make payments under the Receivables. Since the Receivables are located outside Cambodia, and have been sold to the SPV outside Cambodia, they will not be subject to the lower credit rating of the Cambodian Originator or Cambodia's sovereign risk rating. As noted before, the Purchase Price the SPV pays the Originator will include a Discount against the risk that one or more of the German Customers will

be delinquent in paying their Receivables. However, if there are lower-than-expected delinquencies, any excess payment on the Receivables will be transferred to the Originator after the Notes and fees are paid in full. In effect, the Discount acts as a "cushion" against the Receivable not being sufficient to pay amounts owed on the Notes.

So, suppose a Cambodian Originator (or a group of Originators) has exported textiles to a group of German Customers and, in turn, is entitled to receive €50 million in payments. In a receivables-based financing, the Originator will sell the €50 million in Receivables to the SPV, for example, for a price of €40 million, a 20% Discount. To pay that €40 million, the SPV will have issued €40 million in Notes to the Investors. The Fiscal Agent will pay the principal and interest on the Notes from payments it receives under the Receivables. The SPV's credit rating will be based on the credit quality of the German Customers and is further improved by the Receivables having a face value that is €10 million greater than the amounts owed on the Notes. That means that, even if 20% of the Receivables later defaults, there will still be sufficient funds for the SPV to pay the full principal and interest of the Notes. After the Notes and all fees are paid, any remaining funds will be transferred by the Fiscal Agent to the Originator.

In this example, the SPV's credit quality will be significantly higher than the Originator's, since the Receivables—and not the creditworthiness of the Originator—will be the basis for an investment in the Notes. The boost in credit quality means that the cost of borrowing—the interest rate—will be lower than if loans were made directly to the Originator. The net effect is to bypass the Cambodian country ceiling to which the Originator is otherwise subject and thereby potentially lower its total cost of borrowing.

Necessary Legal Framework. A key to successfully implementing receivables-based financing in Cambodia is a Cambodian bankruptcy framework that clearly separates the assets of the Obligor from those of the SPV. Once the Receivables are transferred to the SPV, they can no longer be subject to any claims by the Obligor's creditors (in bankruptcy or otherwise). That includes clear rules on the avoidance of preferential transfers to ensure that the sale of the Receivables cannot be unwound in bankruptcy proceedings. Cambodia must also ensure that the Receivables and their transfer to the SPV are enforceable. Standardizing documentation may enhance legal certainty and efficiency, further encouraging receivables-based transactions. In addition, Cambodia must have clear laws that define how security interests in the Receivables are created, perfected, and enforced. Laws that support the priority of claims on the Receivables must also be in place.

Thinking of Cambodia, while looking at Italian's digitalization

by Riccardo Corrado, PhD
Associate Professor, CamEd Business School

Digital Transformation

Following a study published by the Organisation for Economic Co-operation and Development (OECD), over half of the Small and Medium Enterprises (SMEs) increased the adoption of digital tools to support their business processes during the pandemic, and more than two-thirds of them expressed their belief that such changes are going to be permanent. Also, in accordance with a study by PwC, one of the well-known accounting firms named Big Four, more than half of the Chief Executive Officers (CEOs) in the Asia Pacific and 39% of the workers of the surveyed organizations expressed their belief that their company will not survive in the incoming decade unless they change their current way of doing things in terms of business processes and integration of digital technologies in them. McKinsey & Company, identified three main capabilities necessary for digital transformation during the pandemic: filling gaps for technology talent, using more advanced technologies, and increasing the speed in experimenting and innovating. It has been shown how the pandemic has accelerated by several years the digitalization of both customer interaction and rate of offerings (products and services) that are digital, with the change expected to continue and even accelerate with the evolution of technological advancement, mostly focused around areas such as generative artificial intelligence (AI), cybersecurity and data privacy, cloud-first applications, and environment, social, and governance (ESG).

Data Analytics and data-driven decision-making usually influence five areas, including research and development, data and data-intensive products, processes, marketing, and the overall management of an organization. A study in the United States, showed a positive correlation between data-driven decision-making and asset utilization, return on equity (ROE), and market value. A further study in the United Kingdom, found a positive correlation between data analysis adoption in an organization and its profitability measures, such as EBITDA (Earnings Before Interests, Taxes, Depreciation, and Amortization) per employee and ROE. Specifically, in this context, data analysis adoption refers to the integration of data analytics into an organization's operations to streamline processes, and drive overall performance, through the usage of data-driven strategic decision-making, resource allocation optimization, and support to product development, and marketing operations. Also, following a study from the OECD, 14% of the total jobs in the OECD countries will be impacted by automation, and 32% are expected to face significant change in the next twenty years. But, it is also important to understand that digital transformation doesn't mean that jobs will be stolen by machines, rather governments need to be fast in preparing citizens with the right skill set. In the last decade, digital-intensive sectors created 4 out of 10 new jobs. Jobs will not be stolen, rather jobs are evolving and transforming, and the same must happen also with the way education systems prepare future talents.

Cambodia's Case

Regarding Cambodia, a recent study published in a book result of a collaboration between Konrad-Adenauer-Stiftung (KAS) Cambodia, and EuroCham Cambodia, highlighted how organizations in the Kingdom are aware of the importance of leveraging data for reaching operational excellence, yet they also admit to not being ready for doing this. Due to the numerous initiatives of the Royal Government of Cambodia to support the digital transformation of the country, several SMEs are learning how to adapt to this transformation, but many others are still struggling to effectively operate this change. This may be caused by a number of factors such as fear of change, lack of understanding on how to leverage digital

technologies for the business processes, lack of digital talent in Cambodia, and difficulties in finding the funds to invest for the transformation. Cambodia has remarked on its commitment to harnessing the potential of digital innovation to build a more inclusive, prosperous, and resilient country, through a transformative journey towards a digital economy and society, as outlined in the Digital Economy and Society Policy Framework 2021-2035. Essential pillars of this transformative journey include the promotion of digital entrepreneurship and innovation, financial inclusion enhancement, increased efficiency in business processes, bridging the digital divide, and building a skilled digital workforce. With this in mind, what may be possible policies to adopt for the country? One good approach always consists of learning from other realities that may have more experience in digital technology adoption and may offer useful lessons learned by looking at their successes, failures, and general challenges faced.

The Italian Approach

Specifically, looking at the case of Italy, a study was conducted a few years ago as a partnership of several Italian universities and public institutions. As result of the study, four recommendations were offered: reduce inequalities, promote trust in the digital ecosystem, support public and private digital advantage, and foster a digital ready and inclusive society. At the centre of the Italian approach, it is positioned the PNRR (National Recovery and Resilience Plan, in Italian, Piano Nazionale di Ripresa e Resilienza), consisting of 132 investments and 58 reforms, and being supported by 68.9 billion Euro in grants (roughly 74.4 billion USD), and 122.6 billion Euro in loans (roughly 132.3 billion USD), with more than 60% of its total budget intended for the climate and the digital spheres. The 6 pillars of the PNRR have been defined as (1) digitalization, innovation, competitiveness, and culture, (2) green revolution and ecological transition, (3) infrastructure for sustainable mobility, (4) education and research, (5) inclusion and cohesion, and finally (6) health. Examples of projects included in the plan cover aspects of increasing childcare facilities buildings, improving teaching quality, an eco-bonus for improving the energy efficiency of residential buildings, and boosting the connectivity infrastructure, assuring Gigabit connectivity to schools and healthcare facilities.

Specific focus has also been placed on boosting the digital transition of manufacturing, and the internationalization of small and medium enterprises. The Transition 4.0 plan, for instance, provides tax credits for businesses investing in capital goods, research, development, and innovation, but also investing in training activities specifically focused on digitalization. But also Italy introduced grants for high-tech investments, covering the equivalent of 40% of the expenditures dedicated to investments in machinery, plants, and equipment for technologically advanced manufacturing.

Another sector prioritized in the PNRR is the tourism sector, an essential component not only for Italy but also for Cambodia's economy and thus, an essential element to consider for the Kingdom. Italy highlighted the importance of increasing the digital accessibility of tourism and culture, in an effort to boost the attractiveness and value of Italy's heritage. Regarding this last aspect, the goal has been identified in the creation of a Digital Tourism Hub, accessible through a dedicated web platform, fostering the entire tourism ecosystem to enhance, integrate, and promote its attractions.

In terms of challenges instead, a number of PNRR-related projects have faced difficulties due to the bureaucratic mechanisms that the Italian system has inherited from its past. Several examples of project proposals from companies interested in investing in advanced technologies and focused on digitalizing specific processes have encountered complications in getting approved while the evolution of the same technology the project is based on moved faster than the approval process. Thus, keeping the process simple, transparent, and fast emerged as an essential characteristic to make sure that the transformation happens effectively. Discussion on the revision of some aspects of the PNRR, born during the pandemic, has also been requested, to make sure that the guidelines take into consideration the changes in the current European ecosystem, challenged by inflation and energetic crisis.

Yet, even with all the challenges, many positive results have already been achieved in only three years after the activation of the PNRR. The completion of digital telecommunications and IT infrastructure projects, central pillars of the Italian PNRR is actively ongoing with the development of the ultra-broadband network forecasted to be completed by 2026, with most buildings

so far being already connected by optical fiber, and those still not, being under 5G coverage. Similarly, for the data center infrastructure and cloud services for the Italian public administration, the adaptation and migration of applications to the new National Strategic Hub's have already begun with promising signs of progress. In this respect, 280 administrations are expected to be migrated, adapted, or reengineered by 2026. Still, more work needs to be done but in the end, the digitalization journey is a long one.

Recommendations

Digital transformation has been going on in the Kingdom, fostered by numerous initiatives of the Royal Government of Cambodia. The long journey for some organizations has been positively initiated but others are still struggling to embark on their journey due to numerous challenges. To support a holistic transformation in Cambodia, looking to other countries may represent a valuable source of suggestions and examples of successes and failures to guide the drafting of effective policies for boosting the achievement of a Cambodia 4.0. First and foremost, it is important to remark that pathways followed by other countries, like Italy, with a different history, economic situation, and developmental stage, cannot be taken as ready-to-use solutions for Cambodia, but surely, they can be used as useful study cases. With a focus on the Italian approach, analysing the priorities and pillars of the PNRR may represent a good example to consider, and adapt to Cambodia's ecosystem. Increased digital infrastructures must be a pillar of the approach to digitalization. If the infrastructure is not up to the standards, other initiatives will fall short. Furthermore, supporting companies investing in digital transformation and promoting training related to digitalization should be another priority. Facilitations in terms of taxes, grants, and fostering collaboration between private and public institutions on projects leveraging digital technologies, and advanced technology applications should be considered. Furthermore, supporting and facilitating the shift to cloud-based approaches should be appointed as a priority as well. The shift of public administration services to the national data center has been one of the major priorities of the PNRR, and it should be also for Cambodia. Finally, boosting the transformation of the educational and healthcare services, both in terms of connectivity, and digitally-aligned services, and shifting the tourism sector to a more digitally accessible one, as seen from the PNRR, may represent important inspirations for the Kingdom of Cambodia. This could be also done by boosting possible partnerships with international companies and other governments to support the financial burden of such efforts while enabling the country with the necessary human force to sustain a more technically advanced ecosystem to come while enhancing the outstanding potential of a Cambodian's digital-accessible tourist sector, rooted in the mesmerizing history and culture of the Kingdom of Wonder.

Sustainable Progress? A Critical Look at Sustainability Reporting in Cambodia's Business Sector

by Edman Flores, MBA, CPA
Assistant Professor, CamEd Business School

The Role and Importance of Sustainability Reporting

Sustainability reporting has become a vital component of corporate accountability in today's business environment. It enables organizations to showcase their commitment to economic, social, and environmental responsibilities, extending beyond mere financial performance. These reports provide comprehensive insights into the economic, environmental, and social impacts of an organization's operations (GRI, n.d.). This transparency empowers organizations to enhance their performance in various ESG (Environmental, Social, and Governance) areas, identify areas for improvement, and make informed decisions to boost their sustainability efforts (GRI, 2020).

According to the GRI (2020), sustainability reporting helps organizations build and maintain trust with stakeholders by demonstrating accountability and fostering long-term relationships. It also enables organizations to proactively address sustainability-related risks and opportunities, mitigating negative impacts while uncovering new avenues for innovation and growth. Moreover, sustainability reporting aligns organizations with the United Nations Sustainable Development Goals, ensuring they contribute to critical issues like poverty reduction, climate action, and social justice. As the landscape of sustainability reporting evolves, with a growing trend towards mandatory and regulated reporting, policymakers are increasingly recognizing its role in driving sustainable development.

The Current State of Sustainability Reporting in Cambodia

Recent research has explored the state of sustainability reporting in Cambodia, highlighting both progress and challenges. Miethlich (2019) emphasized the crucial role of collaboration between the government and businesses in promoting sustainable development in Cambodia. The study underscored the growing importance of sustainability reporting as a tool for corporate social responsibility communication and gaining a competitive edge. Although Cambodia's sustainability reporting lags behind other ASEAN nations, it stands out when considering GDP based on purchasing power parity.

Building on this, Ma'aji et al. (2022) examined the evolution of sustainability reporting practices in Cambodia. The study revealed that while many participants understood the importance of sustainability reporting, only a small fraction of companies disclosed their environmental and social impacts. Contributing factors included the lack of regulatory requirements, limited incentives, and a lack of awareness about the strategic benefits. The study called for a deeper investigation into the factors influencing the disclosure of environmental and social activities in sustainability reports.

To further examine sustainability reporting practices in Cambodia, I analyzed the 2022 sustainability reports of two prominent Cambodian companies: NagaCorp Ltd. (NagaWorld) and Smart Axiata Co., Ltd.[1] The reports showed both companies' commitment to sustainability. NagaWorld focused on reducing emissions, conserving resources, and enhancing employee well-being and governance practices. Smart Axiata prioritized economic growth and inclusivity, improving operational processes, and collaborating with various stakeholders. Both

1 This study is published in JAFESS, 8(1), 13 – 26. https://doi.org/10.62458/jafess.160224.8(1)13-26

companies adhered to established reporting frameworks and emphasized meeting standards, thereby enhancing the credibility and transparency of their sustainability reports.

I also took a closer look at NagaWorld's most recent sustainability report, covering the year ended December 31, 2023. The report reflects their commitment to following global best practices in ESG reporting. The company adopts the GRI Standards and reports their greenhouse gas (GHG) emissions according to the GHG Protocol. Acknowledging the increasing climate emergency and its potential impact on business, NagaWorld has taken proactive steps in 2023 to advance their environmental goals. These measures include establishing a Sustainability Governance Structure to integrate sustainability at all levels, from the Board to operational management. Additionally, they issued their first Taskforce on Climate-related Financial Disclosures (TCFD) report and adopted an Environmental Policy. NagaWorld has set ambitious 2030 environmental targets aligned with Cambodia's National Energy Efficiency Policy for commercial buildings. These targets include reducing grid electricity use by 25 percent from a 2018 baseline, cutting absolute Scope 1 and 2 carbon emissions by 10 percent, decreasing water usage by 10 percent from a 2019 baseline, ensuring 100 percent food waste diversion, and launching the inaugural 5Rs Campaign. This campaign engages staff in responsible waste management, waste circularity, and environmental solutions. Furthermore, NagaWorld is gradually phasing in biodegradable single-use plastics, such as food takeaway containers, bags, cutlery, and straws, to support their sustainability initiatives.

Challenges and Prospects

I recently conducted a study to explore the challenges and opportunities of sustainability reporting in Cambodia.[2] Through interviews and surveys with sustainability managers, practitioners, and experts, the study revealed significant insights and provided recommendations for enhancing sustainability reporting in the country.

A recurring theme was the lack of awareness and understanding of sustainability reporting among Cambodian organizations. This knowledge gap is a critical challenge that needs addressing. To overcome it, the study suggests implementing training programs, workshops, and campaigns to raise awareness. Additionally, providing clear guidance and resources is essential to help organizations understand the standards and implications of sustainability reporting.

Another major challenge is the absence of a unified sustainability reporting standard in Cambodia. The existence of multiple standards creates confusion and consumes excessive time and effort. To address this, respondents recommend developing clear guidelines and frameworks for sustainability reporting. These should incorporate both financial and impact materiality to offer a comprehensive view of organizational impacts. Utilizing multiple standards and frameworks, such as ISSB Standards, GRI Standards, and European Sustainability Reporting Standards, can enhance reporting accuracy and uniformity.

Capacity building and collaboration are also emphasized as crucial strategies. Building capacity through training programs and engaging stakeholders can effectively overcome challenges and improve sustainability reporting practices. Cross-sector collaboration and knowledge-sharing are seen as indispensable for driving sustainability reporting efforts in Cambodia. Organizations can benefit from the experiences and best practices of others through such collaborative initiatives.

The potential for technology to improve sustainability reporting processes is recognized, with streamlined data collection and analysis highlighted as key benefits. However, challenges related to data management and integration are acknowledged, underscoring the need for a strong foundation in sustainability practices before implementing technology-driven improvements.

Encouraging Small-Medium Enterprises (SMEs) to engage in sustainability reporting is another shared goal. Strategies to achieve this include raising awareness among SMEs, providing resources and guidelines, offering financial incentives, and establishing recognition programs. These strategies aim to support SMEs in adopting sustainability reporting practices and promoting their active participation in the sustainability agenda.

2 This study is published in JAFESS, 8(2), 11 – 22. https://doi.org/10.62458/jafess.160224.8(2)11-22

Regulatory Developments

The Accounting and Auditing Regulator of Cambodia (ACAR) has drafted a roadmap for implementing sustainability reporting in the country and is now forming working groups to oversee the process.

The current draft of the implementation roadmap outlines the enforcement of ESG disclosure requirements for Cambodian companies, which will be implemented in three stages. The first stage involves the issuance of a Prakas on ESG Disclosures, which will serve as the baseline for sustainability reporting in Cambodia. This will be followed by the introduction of IFRS Sustainability Reporting Standards with transition relief, and then IFRS Sustainability Standards with no transition relief, indicating a gradual increase in the stringency of the reporting requirements. Additionally, a review will be conducted in 2027 to assess the need for introducing simplified ESG disclosure requirements for micro entities.

The roadmap also includes a Pilot Testing and Feedback phase, where a diverse group of reporting entities will be involved in testing the practical challenges and refining the reporting framework based on real-world feedback. This feedback will then be used to make refinements to the reporting requirements. Furthermore, a 'regular discussion forum' with the first adopters will be organized, ensuring ongoing dialogue and stakeholder engagement to ensure the practicality and effectiveness of the sustainability reporting framework in Cambodia.

Conclusions and Recommendations

Sustainability reporting in Cambodia's business sector is still in its early stages and faces challenges due to a lack of awareness and understanding among organizations. The absence of a unified sustainability reporting standard has led to confusion and inefficiency, as companies must navigate different reporting frameworks. To enhance sustainability reporting practices in Cambodia, strategies such as capacity building, cross-sector collaboration, and knowledge-sharing are crucial.

While technology holds promise for improving sustainability reporting processes, its effective implementation requires a solid foundation in sustainability practices. Encouraging SMEs to participate in sustainability reporting is a common objective, but targeted interventions and support are essential for achieving this goal. Leading Cambodian companies like NagaWorld and Smart Axiata have shown a strong commitment to sustainability reporting, but there is still unevenness in the overall sustainability reporting landscape that requires further development.

The development of a clear regulatory roadmap by the ACAR, including the introduction of ESG reporting guidelines and the adoption of IFRS Sustainability Reporting Standards, presents a promising step forward.

I would like to offer the following recommendations:

1. Develop a national sustainability reporting framework that incorporates various standards (e.g., ISSB, GRI, European Sustainability Reporting Standards) to offer clear guidance and foster consistency in reporting.
2. Implement comprehensive awareness-raising campaigns, training programs, and resource development to improve the understanding and adoption of sustainability reporting among Cambodian companies.
3. Establish a national sustainability reporting platform or database to facilitate knowledge-sharing, collaboration, and the dissemination of best practices among businesses.
4. Provide financial incentives, recognition programs, and targeted support to encourage SMEs to participate in sustainability reporting and contribute to the country's sustainable development agenda.
5. Invest in building the technical and managerial capacity of organizations to effectively integrate sustainability practices and utilize technology to enhance their reporting processes.
6. Foster greater collaboration and engagement between the private sector, government, civil society, and academic institutions to drive the sustainability agenda forward and enhance the quality and transparency of sustainability reporting in Cambodia.

Team Psychology in the concept of Teamwork

by Aida Mehrad, PhD
Lecturer, CamEd Business School

Introduction

Team psychology is a multifaceted discipline that integrates concepts from social psychology, organisational behaviour, and leadership studies. It seeks to understand and improve group dynamics, performance, communication, and overall team success. This field is crucial for optimising teamwork in various settings, including workplaces and sports teams, by providing strategies and frameworks that enhance team functionality and goal achievement. Understanding the critical factors influencing team performance is essential. Key factors include team composition, size, and assigning roles and responsibilities, which are pivotal in crafting effective team strategies. The research underscores the significance of these factors in developing comprehensive and practical team strategies (Mehrad & Fallahi, 2014; Salas, 2018; Yeager, 2021).

Leadership plays a central role in team dynamics and success. Different leadership styles—democratic, transformative, and laissez-faire—have distinct impacts on team functioning. Democratic leaders facilitate open communication and collective decision-making, while transformative leaders inspire and motivate through a unifying vision. Laissez-faire leaders offer autonomy, which can drive innovation but also require careful management to prevent disengagement (Allen, 2022; Boogaard, 2022).

Essential soft skills, such as communication, problem-solving, and conflict management, define necessary effective leadership. These skills are vital for assessing team members' strengths and making informed leadership decisions. Understanding and applying these soft skills can enhance team cohesion and performance (Keup, 2022).

Communication and collaboration are fundamental to successful teamwork. Transparent and honest communication ensures alignment and facilitates conflict resolution. Collaboration is strengthened when team members actively listen, share opinions, and construct on each other's strengths, encouraging innovation and a cohesive team environment (Salas, 2018).

Innovation and creativity thrive in environments that embrace diverse perspectives and unconventional thinking. Although this approach can be less structured, it often leads to breakthrough solutions that are unattainable individually. Effective diversity management involves creating an inclusive environment where all members feel valued (Yeager, 2021).

Psychological safety is another critical aspect of team psychology. It allows team members to take risks, share opinions, and accept mistakes without fear of negative repercussions. High psychological safety is associated with increased creation and a readiness to challenge the position quo (Mehrad & Fallahi, 2014).

Finally, continuous development or "upskilling" is vital for team evolution and improvement. Regular skill enhancement boosts individual capabilities and overall team performance, underscoring the importance of ongoing growth and adaptation in high-performing teams (Allen, 2022). Additionally, in the study of Judge and Piccolo (2004), Ilgen et al. (2005), Baker et al.(2006), Bass and Riggio (2006), Page (2007); Shore et al. (2011); Goleman et al. (2013); and Northouse (2018); Team psychology is crucial for understanding group dynamics and improving performance in various settings. Team size, composition, and role assignments significantly impact team effectiveness. Leadership styles, such as democratic, transformative, and laissez-faire, affect how teams function and perform. Effective leadership is characterised by soft skills such as communication, problem-solving, and conflict management. Transparent and honest communication, active collaboration, diversity, and inclusion are fundamental to team success. Psychological safety enables members to take risks, share ideas, and admit mistakes without fear of negative consequences, leading to innovation and a willingness to challenge the status quo. Continuous upskilling is essential for team evolution and improvement.

Model of Team Psychology

Main keywords- understanding the central concept of Team; Individual attitude and decision-making play a crucial role in the team dynamic. Having a clear definition for yourself empowers you and contributes significantly to the Team's success.Group attitude and decision-making are equally significant in the model of team psychology. Having a clear definition of your Team's collective attitude and decision-making process is essential for a unified approach. This unified approach leads to the final definition and conclusion, crucial in achieving the team goal/s. It ensures everyone is on the same page and working towards a common objective.The model of team psychology/teamwork, in general, wants to show that Transforming individual attitudes and decisions into cohesive group attitudes and decision-making leads to powerful outcomes through sharing ideas, ultimately resulting in comprehensive conclusions. Team psychology in the context of teamwork involves understanding the psychological dynamics and interactions within a team. It is crucial in enhancing team performance, cohesion, and overall effectiveness.

Essential Concepts for the Model of Team Psychology

Understanding the central concepts of team psychology involves examining how individual attitudes and decisions impact overall team dynamics. Transforming personal perspectives into a cohesive group mindset is crucial for achieving collective goals. Here is a detailed breakdown of key concepts involved in team psychology:

1. **Team Dynamics: -Roles and Responsibilities**: It is vital to recognize individual roles and align them with personal strengths and weaknesses. This alignment improves task allocation and enhances team efficiency (Belbin, 2010). **-Group Norms**: Unwritten rules and expectations govern behaviour within a team. These norms influence communication, decision-making, and conflict resolution (Gibson & Vermeulen, 2003). **-Leadership and Power**: Effective leadership involves balancing authority with support. Different leadership styles (e.g., transformational and transactional) affect team morale and performance (Bass, 1999; Yukl, 2013).
2. **Communication: - Open Communication**: Transparent, honest communication is essential for resolving conflicts and ensuring team alignment. It also helps share ideas and foster mutual understanding (Robinson & Judge, 2017). **- Feedback Mechanisms**: Constructive feedback promotes continuous improvement and a culture of growth. Regular feedback helps team members enhance performance (London & Smither, 1999).
3. **Cohesion and Trust:-Building Trust**: Trust is foundational for effective collaboration. It is built through reliability, transparency, and consistent behaviour (Mayer et al., 1995). **-Cohesion**: Strong bonds among team members lead to better cooperation and increased motivation, and high cohesion results in more effective teamwork (Carron et al., 1998).
4. **Conflict Resolution:-Types of Conflict**: Conflicts can be task-related, interpersonal, or process-oriented. Each type requires specific resolution strategies (Jehn, 1995). **-Conflict Resolution Strategies**: Effective strategies include open dialogue, negotiation, and mediation. Constructive conflict resolution can strengthen team relationships and improve outcomes (Thomas & Kilmann, 1974).
5. **Motivation and Engagement:-Intrinsic vs. Extrinsic Motivation**: Intrinsic motivation comes from internal satisfaction, while external rewards drive extrinsic motivation. Balancing both types can enhance performance (Deci & Ryan, 1985). **-Engagement**: Engaged team members are more productive and committed. Engagement is fostered through meaningful work, recognition, and growth opportunities (Khan, 1990; Schaufeli & Bakker, 2004).
6. **Team Development Stages**: **-Forming**: Team members establish initial norms and roles as they get acquainted (Tuckman, 1965). **-Storming**: Conflicts and opinions arise as members assert their roles and perspectives. **-Norming**: The team resolves conflicts, establishes norms, and develops cohesion. **-Performing**: The team reaches an optimal level of performance and effectiveness. **-Adjourning**: The team disbands or transitions to new tasks (Tuckman & Jensen, 1977).

7. **Decision-Making: -Decision-Making Processes**: Teams use various approaches, such as consensus, majority rule, or autocratic decisions. The process affects satisfaction and outcomes (Vroom & Yetton, 1973). **-Groupthink** occurs when the desire for harmony leads to poor decision-making. Avoiding groupthink involves encouraging diverse opinions and critical thinking (Janis, 1972).
8. **Diversity and Inclusion**: **-Diverse Perspectives**: Teams with varied backgrounds can approach problems from multiple angles, leading to innovative solutions (Page, 2007). **-Inclusion Practices**: Ensuring all team members feel valued and included is crucial for leveraging diversity effectively (Shore et al., 2011).
9. **Emotional Intelligence**: **-Self-Awareness**: Recognizing one's emotions and their impact on the team. **-Self-Regulation**: Managing one's emotions constructively. **-Empathy**: Understanding and sensitivity to others' emotions and perspectives. **-Social Skills**: Building relationships, managing conflicts, and fostering collaboration (Goleman, 1995).
10. **Visual Aids**: To visualise these concepts, tools like Microsoft Excel, Google Sheets, or specialised diagramming software can be used to create: **-Team Development Stages**: A flowchart or linear diagram illustrating Tuckman's stages: Forming, Storming, Norming, Performing, Adjourning. **-Communication Flow**: An organisational chart or network diagram depicting information sharing and feedback loops.- Conflict Resolution Strategies: A pie chart or bar chart breaks down the effectiveness of different strategies (e.g., negotiation, mediation). **-Motivation Types**: A bar chart or stacked bar chart showing the balance between intrinsic and extrinsic motivation.

Conclusion

This study elucidates the pivotal role of team psychology in optimising teamwork across diverse contexts, from organisational settings to sports teams. The research highlights how effective teamwork, underpinned by a deep understanding of team dynamics and psychology, is essential for achieving organisational and community goals. Key findings emphasise the critical impact of leadership styles on team performance. Influential leaders must navigate various styles—democratic, transformative, and laissez-faire—to foster collaboration and innovation while addressing potential challenges. Leadership effectiveness is enhanced by essential soft skills such as communication, problem-solving, and conflict management. These skills are crucial for assessing team members' strengths and making strategic leadership decisions. Communication and collaboration are foundational to successful teamwork. Transparent, honest communication facilitates alignment, trust, and conflict resolution. Active collaboration, where team members freely share ideas and build on each other's strengths, fosters innovation and a cohesive team environment. The study also underscores the benefits of diversity and inclusion. Teams that embrace diverse perspectives and unconventional thinking are better equipped and inspired to attack complicated concerns and generate innovative solutions. Psychological safety is another critical component. It empowers team members to take risks, share opinions, and accept errors without worry of negative repercussions. This safety fosters a culture of innovation and a willingness to challenge the status quo, providing a secure and confident environment for all team members. Understanding the stages of team development—forming, storming, norming, performing, and adjourning—offers valuable insights for managing team performance and ensuring continuous improvement. By embracing effective leadership, promoting open communication, supporting diversity and inclusion, and fostering psychological safety, teams can improve their implementation and reach their goals more effectively. His open communication creates a connected and engaged environment that drives success and innovation.

This comprehensive approach to team psychology underscores the importance of integrating individual attitudes and decision-making into a cohesive group dynamic. The insights from this study offer practical strategies for building high-performing teams, ultimately leading to more significant achievements and advancements in various team contexts.

Economic and Social Impact of Thalassemia in Cambodia: Challenges and Strategic Solutions

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Background: Thalassemia, a hereditary blood disorder characterized by abnormal hemoglobin production, presents significant health challenges in various regions worldwide, including Cambodia. This genetic condition leads to the destruction of red blood cells, causing anemia and other severe complications. In Cambodia, thalassemia affects thousands of people annually, with a significant number of cases identified in younger populations. Awareness and understanding of thalassemia in Cambodia have gradually increased over the past decade thanks to efforts by health organizations, government initiatives, and international collaborations. However, despite these efforts, the management and treatment of thalassemia face significant obstacles. Severe thalassemia diseases are a major health problem in Southeast Asia.

Causes: Thalassemia is a genetic disorder, inherited from parents who are carriers of the mutated gene. It is not caused by environmental factors like pollution, but by genetic inheritance. This makes public awareness and genetic counseling essential in managing the disorder's prevalence. Limited access to medical facilities and specialized care poses a significant barrier for individuals with thalassemia. Diagnostic capabilities are often inadequate, with many cases going undiagnosed or misdiagnosed due to the lack of advanced diagnostic tools and trained medical personnel. Furthermore, the availability of treatment options is constrained. Blood transfusions, the most common treatment for thalassemia, are hindered by the scarcity of safe blood supplies. In rural areas, blood banks are limited, and the logistics of transporting blood to remote locations are complex and costly. Iron chelation therapy, necessary to prevent iron overload in patients receiving regular transfusions, is often unavailable or unaffordable for many families.

Challenges: Cambodia has a notably high prevalence of thalassemia, partly due to the genetic transmission within the population. Economic limitations further exacerbate these challenges. Many families affected by thalassemia live in poverty, making it difficult to afford the ongoing medical care required. The cost of regular blood transfusions, iron chelation therapy, and other supportive treatments can be overwhelming. In addition, health insurance coverage in Cambodia is limited, and out-of-pocket expenses for healthcare are substantial. As a result, many families forego necessary treatments, leading to deteriorating health outcomes for individuals with thalassemia.

In the context of Cambodia's healthcare landscape, thalassemia is one of the critical disorders that pose a significant burden. Thalassemia ranks lower on the public health priority list compared to more prevalent infectious diseases such as malaria, dengue fever, and tuberculosis, which receive greater focus due to their infectious nature and higher mortality rates. While non-communicable diseases like thalassemia are gaining attention, the country continues to grapple with rising chronic conditions like diabetes and hypertension, as well as persistent issues like malnutrition. The lack of widespread awareness and screening for thalassemia contrasts with the more established programs for combating infectious and nutritional diseases, making it a unique but underrepresented health challenge in Cambodia.

Feasibility of Treatments: Several challenges hinder the effective management of thalassemia in Cambodia. One of the primary challenges is the lack of awareness and education about the condition. In many rural communities, there is limited knowledge about thalassemia, its genetic transmission, and the importance of early diagnosis and treatment. This lack of awareness extends to healthcare providers, many of whom are not adequately trained to recognize and manage thalassemia. Consequently, individuals with the disorder often do not receive timely and appropriate care.

Stigma and cultural beliefs also play a significant role in the challenges faced by thalassemia patients. In some communities, there is a stigma associated with genetic disorders, leading to social exclusion and discrimination. Families may be reluctant to seek medical help or disclose their condition due to fear of stigma. Cultural beliefs and traditional practices can also interfere with the acceptance and adherence to medical treatments.

Treatment options, such as regular blood transfusions and iron chelation therapy, are available but expensive. Public awareness campaigns, promoting healthier lifestyles and better sanitation, could help reduce the incidence of preventable diseases and improve overall health outcomes, which may indirectly benefit thalassemia management.

Economic Implications: Thalassemia has significant economic implications that affect individuals, families, and the broader healthcare system in Cambodia.

Healthcare Costs: Thalassemia requires regular medical care, including frequent blood transfusions and iron chelation therapy to manage iron overload. These treatments are costly, and the expenses can accumulate over time. For many families in Cambodia, especially those in rural areas with limited financial resources, the cost of continuous medical care can be overwhelming.

Loss of Productivity: Individuals with thalassemia often experience chronic fatigue and other health complications that can limit their ability to work or attend school regularly. This reduced productivity affects not only the patients but also their caregivers, who may need to take time off work to provide care. The cumulative effect is a loss of household income and economic productivity at the community and national levels.

Economic Burden on Healthcare System: The healthcare system in Cambodia faces a significant burden in managing thalassemia. The need for specialized care, regular blood transfusions, and long-term treatment options like iron chelation therapy puts a strain on healthcare resources. Public hospitals and clinics, often operating with limited funding and resources, struggle to provide adequate care for thalassemia patients.

Educational Impact: Children with thalassemia miss school frequently due to their medical condition, affecting their education and future economic opportunities. This educational disruption can have long-term consequences on their ability to secure employment and contribute economically to their families and society.

Solutions: Addressing the challenges of thalassemia in Cambodia requires a multifaceted approach involving government commitment, healthcare system strengthening, community engagement, and support from the business sector. A key component of this strategy is the establishment of a comprehensive national program for thalassemia management. Such a program would include public education campaigns to raise awareness about the condition and genetic counseling services to help prevent the transmission of thalassemia.

To enhance the healthcare infrastructure, it is crucial to increase the availability of diagnostic tools, expand blood banks, and ensure the affordability and accessibility of iron chelation therapy. Training healthcare providers to recognize and manage thalassemia is also critical to improving patient outcomes. Educational programs for healthcare workers can be developed in collaboration with international health organizations to provide the necessary skills and knowledge.

The business sector can play a significant role in supporting thalassemia management efforts. Companies can contribute by funding public awareness campaigns, sponsoring healthcare facilities, and providing financial assistance for treatment costs. Corporate social responsibility programs can include initiatives to support blood donation drives, ensuring a steady supply of safe blood for transfusions. A broader involvement of businesses could greatly increase the reach and impact of these initiatives, helping to create a society that supports individuals with thalassemia.

Public involvement is also crucial. Individuals can contribute by donating blood regularly, which is vital for children with thalassemia who require monthly transfusions. Community organizations and NGOs can facilitate awareness programs, support groups, and advocacy efforts to reduce the stigma associated with the condition.

Conclusion: Addressing the challenges of thalassemia in Cambodia requires a concerted effort from various stakeholders, including the government, healthcare providers, the business sector, and the community. Establishing a comprehensive national strategy for thalassemia management is essential to ensure coordinated and effective care for affected individuals. Improving access to healthcare services, particularly in rural areas, is crucial for early diagnosis and timely treatment. Enhancing public awareness and education about thalassemia can reduce stigma and encourage more people to seek medical help.

By adopting a comprehensive and coordinated approach, it is possible to reduce the burden of thalassemia on Cambodian society and improve the health outcomes of those affected by this genetic disorder.

The Cambodian Thalassaemia Association-CTA slogan is "*A Society free from Thalassemia*".

Technology in Healthcare: Collaborative Business Opportunities for Developing Cognitive Training Solutions for Older Adults in Cambodia

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Introduction

Cambodia is on the brink of becoming an aged society, with its elderly population rapidly. According to the National Institute of Statistics in Cambodia, the percentage of older adults has risen significantly, from 6.34% in 2008 to 8.86% in 2019, accounting for 1,378,688 individuals. By 2050, this figure is projected to increase further to 23.17%, transitioning Cambodia into what is known as a "super-aged" society. This demographic shift reflects a broader trend seen globally and within the Association of Southeast Asian Nation (ASEAN) Member States (AMS). Globally, the aging population has become a pressing concern. The World Health Organization (WHO) reported that in 2019, there were 1 billion older adults worldwide, a number projected to rise dramatically to 2.1 billion by 2050. Notably, 80% of these individuals will be living in low- and middle-income countries. Within the ASEAN region, a report from Thailand's Department of Older Persons highlighted that in 2022, seven out of ten AMS had entered the "aged society" phase. A society can be considered as aged when older adults account for more than 10% of the total population. While Cambodia, along with Lao PDR and the Philippines, have yet to reach this threshold, the rapid increase in Cambodia's elderly population poses potential challenges for various sectors, including government, healthcare sectors, and families who may need to provide care.

The use of healthcare technology has surged since the COVID-19 pandemic in 2019, as quarantine measures and limited access to public spaces necessitated the adoption of digital solutions. In Cambodia, this was exemplified by the "Stop Covid" QR code, a tracing app developed by the Ministry of Post and Telecommunications to prevent the spread of COVID-19. This app was widely adopted by businesses and the general public, who used it to scan in and out of locations to ensure safety. This experience not only exposed older adults to digital technology but may have also reduced their hesitation to engage with other health related technologies in the future. Later, the app evolved into the "Stop QR Code Vaccine" app, further increasing familiarity with health technology. Previously, older adults in Cambodia primary relied on radios for entertainment and information. However, the rapid increase in mobile phone adoption, with 20.8 million mobile phone users in 2020, has significantly shifted how people, including older adults, access information. According to Tob Vannara, as reported in "CamNess", even older adults in rural areas now prefer mobile phones due to their portability and multifunctionality, offering features such as sound, video, and programs, similar to the radio. This growing familiarity and comfort with mobile technology, particularly during the pandemic, has opened the door for older adults to engage more with digital tools, potentially paving the way for broader use of health-related technologies in the future.

Healthcare technology is now being leveraged for a variety of purposes beyond COVID-19 prevention, including patient safety, monitoring physical health, nutrition, sleep patterns, and promoting behavior change, as well as for cognitive training. These technologies not only enhance accessibility but also address the shortage of healthcare workers. If the connection between healthcare and technology can be easily seen, a focus should be placed

on understanding how the private sector can seize collaborative opportunities with healthcare professionals to create innovative healthcare solutions. This growing intersection between healthcare and technology presents a prime opportunity for the private sector in Cambodia to collaborate with healthcare professionals, creating innovative solutions that meet the needs of an aging population.

Case Discussion: Computer-Based Cognitive Training for Older Adults

There are many avenues where businesses can collaborate with healthcare providers to create innovative solutions, and this review focuses on one specific area: computer-based cognitive training for older adults. As Cambodia's elderly population continues to grow rapidly, addressing their cognitive health is not just a business opportunity but a public health necessity.

Why Addressing Cognitive Training Among Older Adults is Important?

If healthcare providers were asked this question, their answers would likely be unanimous. Cognitive decline is a common concern as people age. While some individuals maintain cognitive function throughout their lives, others experience cognitive decline, which can severely impact their health. For instance, older adults with mild cognitive impairment are at risk of progressing to dementia or Alzheimer's disease, affecting their overall well-being and quality of life. This decline not only impacts the individuals themselves but also places emotional and financial strains on their families, who often bear the burden of caregiving.

Sadly, cognitive impairment is often more prevalent among individuals with lower income and education levels, which aligns with the socioeconomic conditions of many AMS. According to Griffiths et al. (2020), low income and low education are significant risk factors to cognitive impairment, particularly among rural older adults. This can be explained by the fact that people with less education may have limited access to information about the importance of maintaining cognitive function or be unaware of available cognitive training programs.

Types of Computer-Based Cognitive Training

Traditionally, cognitive training has been conducted using low-tech methods, such as paper-and-pencil tasks. However, with advancements in information and communication technology (ICT), computer-based cognitive training has gained popularity due to its many advantages over traditional methods. These benefits include the ability to provide immediate feedback (e.g., scores, sound cues), cost-effectiveness, personalization, and an increased level of enjoyment and engagement during training.

Computer-based cognitive training can generally be categorized into two types: game-like training and virtual reality (VR) training. Game-like training is more accessible and familiar to older adults, making it a practical solution, while VR-based training, though more immersive, remains less accessible and less known among this demographic.

While VR-based cognitive training offers immersive experiences, its accessibility remains limited, as it is primarily used in hospital or rehabilitation settings and requires specialized supervision. Additionally, older adults may find VR technology challenging, struggling with headsets, controllers, or sensors, which could lead to negative experiences and affect the training's overall effectiveness. However, with a careful design that takes into account age-related issues, such as mobility challenges and vision impairments, VR training could also be successfully implemented among the older adult population. The issue of less accessibility to VR tools yet remains, making solutions based on more common devices, like tablets or smartphones, more suitable for larger use.

Game-like training (not VR) is often more suitable for older adults, who may be less familiar with complex technology. Unlike VR-based training, game-like training is easier to interact with through smartphones or tablets, required less technical skill. Examples of such game-like cognitive training programs currently available in the market include Elevate, Lumosity, Fit Brains, Brain HQ from Posit Science, and Brain Workshop. However, some commercial cognitive training programs, such as CogMed, Jungle Memory, and Cognifit, have been criticized for lacking a solid theoretical foundation and evidence-based mechanisms. Additionally, these commercial programs are not yet available in Khmer language. This presents a unique opportunity for Cambodian entrepreneurs, in collaboration with healthcare professionals, to develop evidence-based cognitive training programs tailored to the specific needs, language, and context of Cambodian's older adults.

The Need for Collaboration Between Healthcare Providers and Businesses

Healthcare providers often do not have the expertise to develop software applications, just as the private sector operating in the software development industry may have. In turn, the latter, most likely lack the in-depth knowledge of cognitive processes required to design effective cognitive training programs based on games of virtual environments. Collaboration between these two sectors is, therefore, essential to creating effective computer-based cognitive training solutions for older adults.

Healthcare professionals, particularly those specializing in cognition, are crucial in developing the content for cognitive training programs. These experts understand the relationship between specific cognitive domains and their effects on overall function, particularly in older adults. Simultaneously, the private sector brings to the table expertise in software development and program design, allowing them to create user-friendly and engaging applications. Without collaboration, neither party could effectively develop a robust cognitive training tool.

During the creation, a variety of factors should be accounted for effective development. For instance, the target audience usually presents age-related issues, such as declines in vision and hearing. These factors must be carefully considered during the design process to ensure that the applications are user-friendly and accessible. Another challenge is older adults' relative unfamiliarity with technology compared to younger generations, who have grown up using digital tools. This generational gap may reduce the acceptance and adoption of computer-based cognitive training among older adults, making it crucial to design intuitive and simple-to-use interfaces. A close collaboration between the private sector and healthcare professionals can open the doors to new opportunities for businesses in Cambodia. In this manuscript, we discussed one, namely computer-based cognitive training for older adults. But the array of opportunities is numerous, from telemedicine to electronic health records management, wearable health devices, robotics surgery, mobile health apps, big data analytics, Internet of Medical Things (IoMT), chatbots and virtual assistants, and remote patient monitoring. Opportunities that can emerge from a closer relationship between ICT professionals and healthcare ones.

Conclusion

The increasing population of older adults presents both challenges and opportunities for the healthcare and business sectors. Computer-based cognitive training solutions, developed through collaboration between healthcare providers and businesses, offer a pathway to address cognitive decline in older adults while also tapping into a growing market for innovative health products. By combining the strengths of both sectors, businesses can create impactful solutions that enhance the quality of life for older adults, while healthcare professionals ensure these tools are grounded in science and tailored to meet users' needs.

Using ChatGPT: The Experience of Higher-Education Students

By Kenneth Paul Charman, PhD
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Using ChatGPT: Understanding the Attitudes of Business School Students

In November 2022 ChatGPT was launched, and with it came the possibility to take a quantum leap beyond established search functions for a multitude of applications. The potential benefits of ChatGPT are attractive in higher education, where complex questions and lengthy assignments are commonplace, and where the uptake of ChatGPT amongst students would be expected to be rapid and widespread. Higher education students could provide an insight into how the rest of the population might adopt ChatGPT and other AI chatbots as a genuinely disruptive technology which could transform work processes. However, the benefits of ChatGPT and other AI chatbots run parallel with concerns as to the accuracy and reliability of information which AI chatbots provide, and ethical concerns as to the originality of the outputs and the potential over-reliance on AI chatbots that result.

In April 2023, when awareness of ChatGPT was at an early take-up stage, we surveyed 536 undergraduate business school students in five countries, USA, Cambodia, Finland, Ghana and Nigeria, focusing on questions of awareness and early usage of ChatGPT. In April 2024 we surveyed 466 business school students in the same countries, incorporating the results of surveys which had been undertaken and published during the year, and which primarily focused on how students used ChatGPT and how they saw the benefits and potential risks of using AI chatbots. Both these surveys were published in the Finnish Business Review.

Benefits and Risks of ChatGPT: Building on Research

Research on ChatGPT has identified benefits in many areas of technical, academic, and personal development, much of which applies directly to the higher-education sector. Researchers have recognized the potential for ChatGPT to promote new ways to learn and teach, particularly by offering students choices as to how they learn, opportunities to improve writing, understanding of concepts and applications of technology. The benefits of ChatGPT can include personalized and self-directed learning, improved efficiency of learning, the ability to generate reports and process both quantitative and qualitative information.

Benefits of ChatGPT for teachers include preparing presentations, grading papers, building teaching aids, and quizzes. Other important benefits include AI's human-like responses, summary creation, and technical capabilities, including coding and writing and using formulas. The views of students published in various studies internationally indicated a keenness to use AI as a supplementary resource for aiding assignments, combined with some specific "workhorse" tasks such as report writing.

However, the use of ChatGPT has raised doubts over accuracy, potential bias, lack of transparency, implications for copyright, risks of plagiarism, lack of originality, quality, accountability, and the impact on critical thinking. Ethical concerns including bias, privacy issues, autonomy, informed consent, and accountability, and facilitating plagiarism have remained at the forefront. Research has identified changes in teaching methods to adapt to AI. These can include changing the way that assignments are administered to discourage students from simply providing an AI generated response, and the use of flipped-classrooms, where students are required to acquire a significant amount of information on the subject matter before the class, providing scope for teachers to interact with students and encourage debate in class in preference to more traditional lecture format.

Researchers have begun to put forward frameworks for responsible use of AI, focusing on productive and time saving use of AI whilst retaining originality and preserving learning and retention.

Attitudes of students towards ChatGPT and other AI chatbots have generally been enthusiastic, albeit with concerns for the ethical and accountability issues. However, the number of student surveys undertaken is still low. Hence, our survey, with the target group of undergraduate business school students in five countries covering four continents, whilst exploratory, is aimed at contributing to empirical work on students' use of and attitudes towards AI, and in particular ChatGPT, through gaining an insight into the students' own experience as they incorporate such a powerful and disruptive technology into their studying.

The 2023 and 2024 Survey Results

The 2023 and 2024 surveys provided insight into students' awareness, understanding, and frequency of use of ChatGPT and the purposes for which students were using ChatGPT and other AI chatbots. The surveys also asked students whether and how ChatGPT was helping them achieve learning outcomes, and how they perceived and dealt with the potential risks associated with using AI chatbots such as potential plagiarism, reliability of information and potential negative aspects on their learning.

The proportion of students reporting familiarity with ChatGPT well or somewhat well rose from 43% in the 2023 survey to 83% in the 2024 survey, as ChatGPT became more widely established. The highest awareness in both years was in Finland at close to 70%, followed by the USA at 64%, Ghana and Nigeria at 57% and Cambodia, where the level of awareness rose from 22% in 2023 to 43% in 2024. In 2023, 27% of students reported using ChatGPT daily, weekly or monthly, but over 70% of the students reported either not to have used ChatGPT or used it only rarely. By 2024, around 70% of students reported that they were using ChatGPT regularly.

Purposes for which ChatGPT is Used

In 2023, the most commonly reported uses for ChatGPT amongst students were:

- research (61.6%)
- studying (53.7%)
- general knowledge (50.1%)
- homework help (36.2%)
- entertainment (24.2%)

In the 2024 survey more categories were added to incorporate the findings of the most recent research, and the most widely reported purposes were:

- general knowledge (70.8%)
- searching for information and ideas (70.4%)
- brainstorming (69.7%)
- research (69.3%)
- answering questions (68.2%)
- homework help (65.9%)
- studying (65%)
- giving a second opinion (62.4%).

A noteworthy proportion of the students reported using ChatGPT for:

- obtaining formulas (45.9%)
- searching literature resources (45.9%)
- writing essays and reports (43%)
- entertainment (38.8%).

Comments from students in the 2023 survey reinforced the focus on search related questions and generating ideas, reporting using ChatGPT to:

- act as an alternative search engine
- undertake technical applications such as coding
- create Excel formulas
- assist in problem solving
- build coding algorithms.

Wider tasks including job applications, administration, personal growth, interests, investing, improving communications and writing skills were uses which students reported. Comments by students in the 2024 survey also referred to brainstorming, requesting help from ChatGPT in a variety of ways, with one student referring to "chatting to ChatGPT as they might another person".

Both the 2023 and 2024 surveys indicated that students tend to use ChatGPT as an assistant. This identifies a role for ChatGPT to be a friendly co-pilot, to generate ideas, summarize difficult content, help with grammar, and draft difficult and time-consuming documents such as a business plan. The high reported usage of ChatGPT for research related applications indicated that students were using AI to quickly acquire knowledge. A smaller but significant proportion were using ChatGPT to write essays and reports.

Perceived Benefits of Using ChatGPT

There is an obvious link between the perceived benefits of ChatGPT and its actual uses. In the 2023 survey, students reported the benefits of ChatGPT as:

- quick access to information (73%)
- improved understanding for complex subjects (60.5%)
- improved critical thinking (36.8%)
- provided increased motivation for learning (34.9%).

Students reported that ChatGPT provided a source of inspiration, was helpful for kickstarting research projects, acting as a tool to utilize, and a working companion.

In the 2024 survey students reported the benefits of ChatGPT as:

- helping to generate ideas (51.3%)
- brainstorming (51.3%)
- a personal assistant (41%)
- providing increased motivation for learning (31.1%)
- improved critical thinking (28.8%).

A total of 56.7% of students considered that ChatGPT helped them attain better learning outcomes. Opinions on the potential usefulness of ChatGPT were very consistent between the regions. In 2024, 51% of total respondents considered ChatGPT beneficial for achieving better learning outcomes, with responses in Nigeria and Ghana being 63%, USA 62%, Finland 53% and Cambodia 41% respectively.

Perceived Risks of ChatGPT

In the 2023 survey, the perceived risks of ChatGPT were seen as:

- dependence on technology (66.5%)
- lack of personal interaction with peers and professors (40.2%)
- risk of plagiarism (56.1%).

Further downsides cited in student comments included a perceived lack of accuracy, the possibility of generating fake information, encouraging confirmation bias, restricting learning and critical thinking, and over-reliance on ChatGPT. In 2024, with the survey incorporating the wider body of literature which had been published, the drawbacks were seen as risk of:

- plagiarism (60%)
- dependence on technology (51.5%)
- reductions in critical thinking (50.6%)
- lack of peer review (48.7%)
- lack of personal interaction with instructors and peers (44.8%)
- possible biased responses (43.3%)
- the inability to assess accurately (37.3%)
- lack of access to up-to-date research (35.4%).

Students reported unreliability issues, including the inability of ChatGPT and AI chatbots to identify sources of information, the lack of consistency between answers, and the incidence of receiving completely nonsensical answers. Unreliability emerged as a major concern, alongside ethical issues.

Conclusion: Attitudes Towards ChatGPT and Other AI Chatbots

We found students to be open-minded but wary, recognizing both the potential benefits and the downsides and risks. Students were skeptical of rushing headlong into ChatGPT, and were in the process of finding ways where AI can be genuinely useful without incurring ethical issues. The purposes for which ChatGPT was used by higher education students and the potential benefits remained broadly the same in both the 2023 and 2024 surveys, with brainstorming, idea generation, and help with complex answers which are popular uses, indicating that ChatGPT is seen by many students as a general assistant, extending to helping with homework, writing essays, and reports. Some students evidently use ChatGPT more than others, and will use ChatGPT for more complex tasks such as report generation. Some see ChatGPT as primarily an assistant, whilst others will see it as a workhorse.

Using ChatGPT to maximize the benefits of personalized learning and brainstorming without the risks of over-reliance, and compromising both critical thinking and academic integrity represent an ongoing journey, which is still in the early stages. However, the views of business school students provide insight into how ChatGPT and other emerging AI chatbots may integrate into future learning process.

As AI continues to evolve, the role of tools like ChatGPT in higher education will likely expand. While the benefits, such as personalized learning, increased efficiency, and

enhanced access to knowledge, are clear, educators and students alike must remain vigilant about the potential risks. Striking the right balance between leveraging ChatGPT for academic advancement and maintaining ethical standards, such as critical thinking and originality, will be crucial. As we continue to explore and refine its use in educational settings, ongoing dialogue between institutions, educators, and students will help shape the responsible integration of AI technologies like ChatGPT into future learning experiences.

Game-Based Learning: Elevating Business and Academic Writing Skills for EFL Learners

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Introduction

Effective communication is crucial in today's job market. According to the National Association of Colleges and Employers (2019), a staggering 82% of employers consider it a key skill for career success. The survey also revealed that four out of five employers prioritize strong written communication abilities when evaluating recent graduates. In this competitive landscape, possessing robust writing skills—especially grammatical proficiency—is vital for professional advancement. Poor grammar can lead to misunderstandings, tarnish professional reputations, and ultimately result in lost business opportunities. For English as a Foreign Language (EFL) learners, mastering grammar, particularly in business and academic writing contexts, presents unique challenges. These learners often grapple with the intricacies and rules of English grammar, where even slight deviations can significantly alter meaning and prompt miscommunication. Such struggles can diminish their confidence and professionalism in the workplace. Recognizing the substantial challenges EFL learners face, many educators are turning to innovative solutions to enhance their learning experience. Digital games, especially gamification strategies, have gained popularity in language learning over the past few decades, with foundations laid as early as the 1980s (Phillips, 1987). Their effectiveness as educational tools have been supported by numerous studies (Castillo-Cuesta, 2020; Dixon, Dixon, & Jordan, 2022; Li, Peterson, & Wang, 2024; Panagiotidis, Krystalli, & Arvanitis, 2023). Platforms like Kahoot provide interactive and immersive environments that not only motivate learners but also facilitate the acquisition of grammatical knowledge in engaging and innovative ways. This study aims to delve into the impact of Kahoot on the grammatical development of EFL learners specifically in the realm of business and academic writing. It will compare outcomes between learners who engaged with Kahoot alongside traditional instruction and those who received standard teaching methods devoid of gamification.

The Challenge of Grammar for Business and Academic Writing

Effective grammar is paramount in this field, as it directly influences clarity, professionalism, and overall credibility within professional communication contexts. For non-native English speakers, the journey to mastering grammar can be particularly intimidating due to the intricate complexities and subtleties inherent in English syntax and structure. Common hurdles include grasping the principles of subject-verb agreement, utilizing the correct verb tenses, and constructing complex sentences with precision and accuracy. These grammatical challenges can lead to profound negative ramifications in business communication, manifesting as misunderstandings, misinterpretations, and a damaged professional image that can impede career advancement.

In competitive environments, even seemingly minor grammatical lapses can dramatically undermine an individual's credibility and result in missed opportunities for professional growth and development. Traditional methods of grammar instruction often fall short when it comes to genuinely engaging learners and fostering true mastery of the material. These conventional approaches may excessively rely on rote memorization and repetitive exercises that can alienate students, thereby failing to provide practical, real-world applications of the concepts learned. As a result, many learners struggle to retain

grammatical concepts and apply them effectively in authentic business situations. This illustrates the urgent need for innovative teaching methodologies that can meaningfully engage students while enhancing their grammatical proficiency and confidence.

Gamifying Grammar Practice with Kahoot

Kahoot is an interactive, game-based learning platform that has surged in popularity in various educational arenas. This dynamic tool empowers users to create and participate in engaging quizzes that promote active learning through elements of competition and collaboration. At CamEd Business School, the integration of Kahoot into the English curriculum was designed to enhance grammar instruction for students, thereby fostering a more engaging learning experience. The study encompassed two groups of participants: an experimental group (EG) that utilized Kahoot alongside traditional teaching strategies and a control group (CG) that received standard instruction without the infusion of gamification.

The key features of Kahoot that render it particularly effective for grammar instruction include its ability to provide immediate feedback, its inherently engaging format characterized by competitive elements, and the capacity to customize content tailored to the specific needs of learners. Students can engage with the material either individually or in teams, making the overall learning experience dynamic, interactive, and enjoyable. This gamified approach serves to significantly increase student motivation and encourages proactive participation, presenting a stark contrast to traditional pedagogical methods that often lack such interactive elements.

The results of this study, analyzed using a mixed between-within subjects ANOVA, compellingly demonstrated the effectiveness of Kahoot in enhancing grammatical knowledge over time. The EG consistently outperformed the CG on subsequent grammar assessments, powerfully illustrating the potential of gamification as a transformative approach to language learning. The integration of game-based learning into the instructional process not only engages students but also actively promotes a deeper understanding of grammatical principles that are essential for effective business and academic writing.

Measurable Gains in Grammar Competency

The findings of this study reveal that the use of Kahoot significantly enhanced the grammatical knowledge of EFL learners, as evidenced by their performance on grammar tests conducted during the research. Students in the EG consistently recorded higher scores than their counterparts in the CG across a range of assessments given to them after the initial pretest. To be more precise, while the CG exhibited only marginal improvements as is evident in their mean scores (T1 = 10.90, T2 = 12.18, T3 = 13.34, T4 = 15.25), the EG demonstrated substantial gains (T1 = 10.77, T2 = 12.32, T3 = 13.87, T4 = 15.97), particularly notable in Tests 3 and 4, where the mean differences reached statistically significant levels ($p < .05$). as displayed in Table 1:

Table 1. Results of Descriptive Statistics

Tests	Groups	Mean	Std. Deviation	N	t	Sig.
Grammar Test 1	EG	10.77	1.43	35	-.36	.71
	CG	10.90	1.57	32		
	Total	10.83	1.49	67		
Grammar Test 2	EG	12.32	1.32	35	.4.1	.67
	CG	12.18	1.44	32		
	Total	12.26	1.37	67		
Grammar Test 3	EG	13.87	1.37	35	1.52	.13
	CG	13.34	1.45	32		
	Total	13.61	1.42	67		

Grammar Test 4	EG	15.97	1.52	35	2.00	.04
	CG	15.25	1.41	32		
	Total	15.62	1.50	67		

Specific grammatical areas where students exhibited pronounced improvement included subject-verb agreement, the proper use of relative clauses, and the formation of conditional sentences.

These advancements in grammar competency can be directly attributed to the interactive features that Kahoot provides, which effectively transformed traditional grammar exercises into captivating and dynamic activities. The immediate feedback mechanism inherent in Kahoot allowed students to promptly identify and rectify their mistakes, thereby reinforcing their grasp of grammatical rules. Furthermore, the competitive atmosphere fostered by Kahoot ignited a drive within learners to participate actively and strive for continuous improvement, ultimately contributing to their overall progress. These enhancements in grammar competency are pivotal for students' success in business environments. Improved grammar skills not only yield clearer and more effective writing but also enhance professionalism and credibility—two critical attributes in any business communication scenario.

Practical Implications for Business Communication

The significant improvements gleaned from this study carry direct implications for business communication. Enhanced grammar skills culminate in clearer and more effective writing, an indispensable requirement in professional contexts. By integrating gamified learning tools, such as Kahoot, into training and development programs, organizations can cultivate a more engaging and effective learning environment for their employees. This innovative approach not only nurtures individual capabilities but also enhances teamwork and peer interaction, critical components for developing strong communication skills within teams. Furthermore, embracing gamification facilitates a cultural shift within organizations that reduces anxiety surrounding grammar learning, rendering the experience more enjoyable and far less intimidating. This transformation can lead to heightened employee satisfaction and retention, in addition to bolstering overall team dynamics. The adoption of gamified learning tools not only enriches the educational experience for employees but also sets the stage for a thriving and productive workplace culture.

Conclusion

In conclusion, this study underscores the remarkable benefits of utilizing Kahoot as a pivotal tool for enhancing grammar proficiency among EFL learners in the domain of business and academic writing. The gamified approach promotes an engaging learning environment that enhances student motivation, encourages active participation, and facilitates a more profound understanding of complex grammatical concepts. By integrating innovative tools like Kahoot into educational frameworks, we not only address the pressing need for improved grammar skills among EFL learners but also equip them with the essential communication competencies that employers are actively seeking. The ability to convey ideas clearly and professionally is paramount in today's competitive job market, where even minor grammatical errors can jeopardize career opportunities. This study provides compelling evidence that gamification can transform the learning experience, making grammar instruction not only more effective but also more enjoyable for students. For both businesses and educators, these findings present a compelling case for incorporating gamification into training methodologies. By adopting such innovative strategies, organizations can significantly improve language skills, enhance team dynamics, and ultimately elevate communication effectiveness within the workplace. As we move forward, it is crucial to recognize that enhancing strong communication skills through engaging and interactive methods will not only benefit individual learners but also contribute to the overall success of organizations in an increasingly globalized economy. Future research could explore the broader application of gamification tools in various business training programs, further assessing their influence on learner engagement and the retention of essential skills. Ultimately, by prioritizing effective communication through innovative educational practices, we can better prepare EFL learners for the challenges and opportunities that lie ahead in their professional journeys.