

Reconceptualising Employee Engagement as a Strategic Catalyst for Operational Efficiency: A Conceptual Framework from Sri Lanka's Tea Smallholder Sector

W. A. M. Hashini Fernando¹, Jacqueline Tham², S. M. Ferdous Azam³

¹Postgraduate Centre, Management and Science University, Malaysia

²Postgraduate Centre, Management and Science University, Malaysia

³Postgraduate Centre, Management and Science University, Malaysia

*Corresponding Author: W. A. M. Hashini Fernando¹

ABSTRACT: *Labour-intensive agribusiness sectors in emerging economies face persistent operational inefficiencies that undermine competitiveness. Sri Lanka's tea smallholder sector, which contributes over 70% of national green leaf output, exemplifies this paradox of high contribution but stagnating efficiency. While prior research has emphasised agronomic practices and labour shortages, the strategic role of employee engagement in shaping efficiency outcomes remains underexplored. This paper reconceptualises engagement as a strategic catalyst for operational efficiency by drawing on the Theory of Constraints (TOC) and Contingency Theory. It argues that engaged employees, supported by training and welfare mechanisms, can mitigate systemic bottlenecks, enhance resource utilisation, and improve timeliness in production. A conceptual framework is developed that positions engagement as the central cultural mechanism linking human motivation to efficiency outcomes. The paper advances theoretical propositions for future empirical testing using Structural Equation Modelling (SEM). It contributes to strategic management and agribusiness literature by integrating human engagement into efficiency models, while offering policymakers and industry actors actionable strategies for strengthening engagement-driven sustainability.*

KEYWORDS - *agribusiness, employee engagement, operational efficiency, strategic management, Sri Lanka, tea smallholders*

I. INTRODUCTION

Tea remains one of the world's most traded agricultural commodities, underpinning livelihoods in over 50 producing countries and shaping the socio-economic fabric of rural communities (FAO, 2024). Sri Lanka, globally renowned for its Ceylon tea, is a leading contributor to this global industry, with its smallholder sector producing more than 70% of national green leaf output (Sri Lanka Tea Board, 2022). Yet paradoxically, while the sector plays a decisive role in both export competitiveness and poverty alleviation, it has experienced declining productivity and stagnating operational efficiency in recent years (Fowler & Monteiro, 2025). This inefficiency jeopardises Sri Lanka's competitive position in global tea markets, where cost structures, timeliness, and quality standards are increasingly critical.

Existing explanations of this paradox have largely focused on agronomic and structural constraints such as soil degradation, labour shortages, and inadequate access to modern cultivation techniques (Rosairo & Potts, 2016; Ranasinghe & Wickramasinghe, 2020). While important, these explanations neglect behavioural and cultural dynamics that shape operational outcomes. Globally, employee engagement is widely recognised as a driver of productivity, innovation adoption, and adaptability (Meyer & Allen, 2020; Liker, Saks & Gruman, 2014). Studies in agribusiness contexts suggest that engaged workers are more likely to embrace training, reduce wastage, and align with collective production goals (Xie et al., 2022; Kamalakkannan et al., 2020). However, in Sri Lanka's tea industry, engagement remains under-theorised, often relegated to the margins of welfare or HR discussions (Gunathilake & Rathnayake, 2021).

This gap constitutes the central research problem. Without reconceptualizing engagement as a strategic determinant of efficiency, interventions risk addressing surface-level agronomic challenges while ignoring the human and cultural levers that sustain productivity. This study therefore advances a conceptual framework that positions employee engagement as a strategic catalyst for operational efficiency in tea smallholdings. The framework is grounded in the Theory of Constraints (TOC) and Contingency Theory, offering a novel theoretical lens through which engagement can be understood as a mechanism for alleviating systemic bottlenecks and aligning workforce behaviour with contextual realities.

Accordingly, this paper pursues three objectives: (1) to reconceptualize employee engagement within the strategic management literature as a catalyst for efficiency; (2) to integrate insights from TOC and Contingency Theory to explain engagement's role in mitigating systemic inefficiencies; and (3) to propose a

conceptual framework and propositions for future empirical testing using Structural Equation Modelling (SEM). In doing so, it contributes to both theory and practice: theoretically, by extending engagement literature into agribusiness contexts; and practically, by offering policymakers and industry actors actionable strategies for enhancing productivity through engagement-driven interventions.

II. LITERATURE REVIEW

2.1 Employee engagement as a strategic resource

Employee engagement is commonly defined as employees' psychological investment and behavioural commitment to organisational goals (Ngo & Le, 2023). Beyond HRM, strategic management research increasingly conceptualises engagement as a firm-level resource that shapes operational routines and adaptive capacity. Through the Resource-Based View (RBV), engagement can be read as a valuable, rare, and imperfectly imitable asset that underpins process reliability and continuous improvement. Dynamic capabilities scholarship likewise situates engagement within the microfoundations of sensing, seizing, and reconfiguring, where workers' discretionary effort and learning orientation enable faster problem-solving and routine renewal. Yet the literature remains divided: operations-oriented studies emphasise standardisation and control (lean/TQM), while engagement research stresses autonomy and meaningfulness. The absence of integrative accounts leaves unresolved how engagement translates into efficiency under varying operational logics (Starks, 2023).

2.2 Engagement and operational efficiency in labour-intensive systems

Evidence from labour-intensive sectors such as manufacturing, horticulture, and perennial crops shows that engagement improves timeliness and reduces defects. It also stabilises throughput by enhancing attendance and effort consistency. In agribusiness, engaged workers adopt good agricultural practices more readily, use inputs efficiently, and adhere to quality protocols, particularly when discretion and environmental variability are high (Xie et al., 2022). Studies in African smallholder systems for example, Ghanaian cocoa and Nigerian maize also highlight the role of worker motivation in stabilising yields and reducing post-harvest losses (Rahadi et al., 2024). Similarly, Latin American coffee cooperatives demonstrate that participatory engagement strengthens both efficiency and resilience. However, boundary conditions matter. Seasonality, informal labour arrangements, and fragmented governance often weaken formal HR levers. These contingencies underscore the need for contextualised mechanisms that align engagement with operational control. Approaches such as simple visual standards, peer monitoring, and participatory problem-solving often prove more effective than generic HR programmes (Namagembe, 2023).

2.3 Training and development as engagement architecture

Training is often treated as a technical intervention. A more strategic view frames it as engagement architecture that builds capability while signalling organisational support. Well-designed training relevant, practical, and linked to performance routines generates both competence and commitment, reinforcing the psychological contract and encouraging discretionary effort. In Sri Lanka's tea sector, the lack of systematic, transfer-oriented training has entrenched resistance to innovation and contributed to persistent inefficiencies. This neglect is more than a missed opportunity. It reflects a conceptual blind spot, where training is reduced to skill transmission instead of theorised as a strategic lever of engagement and efficiency. Future models must connect curriculum design (e.g., field demonstrations, peer coaching, microlearning at plucking points) with measurable efficiency outcomes such as timeliness, quality, and reduced wastage (Naeem et al., 2023).

2.4 Welfare, social exchange, and engagement sustainability

Welfare provisions ranging from healthcare and housing to participatory governance are consistently associated with lower turnover and higher attendance in plantation economies (Girynugraha, 2023). From a social exchange perspective, credible welfare signals organisational support, deepening commitment and stabilising labour availability. This is especially critical in time-sensitive tasks such as plucking rounds. However, two caveats are evident. First, welfare schemes framed narrowly as CSR can become decoupled from operational outcomes, limiting their impact. Second, poorly managed benefits risk dependency without performance improvement. The emerging consensus is to treat welfare as a strategic investment. When configured with voice mechanisms such as worker committees, suggestion schemes, and gain-sharing, welfare can reinforce reliability, enhance problem-reporting, and embed continuous improvement at the field level (Setiawan, 2024).

2.5 Operational efficiency in tea smallholdings: reframing beyond agronomy

Operational efficiency maximizing output quality per unit input has traditionally been studied through agronomic levers such as fertiliser use or clonal selection. Yet tea smallholdings often face human bottlenecks: absenteeism, uneven motivation, and weak adoption of standards. These issues translate into delayed plucking, inconsistent leaf quality, and hidden rework, often referred to as the plantation "hidden factory." Insights from operations management (lean/TQM) indicate that technical efficiency gains cannot be sustained without behavioural reliability (Rifa, 2023). This does not diminish the value of agronomic improvements but highlights

that their effectiveness is contingent upon parallel behavioural reliability. In dispersed smallholder settings, where formal hierarchy is limited, engagement mechanisms such as peer norms, training-transfer supports, and welfare-linked retention are likely to deliver larger efficiency gains than incremental agronomic adjustments (Souso, 2024).

2.6 Synthesis and research gap

Across global studies, engagement consistently emerges as a powerful but under-theorised driver of operational efficiency, particularly in labour-intensive, variable environments (Patel et al, 2023). Yet Sri Lankan scholarship on tea smallholdings continues to privilege agronomic and structural explanations, treating engagement as peripheral. This paper addresses the gap by advancing a strategic management-anchored account that: (i) reconceptualises engagement as a resource and capability microfoundation for efficiency; (ii) theorises training as engagement architecture and welfare as a social-exchange mechanism for sustaining reliability; and (iii) links these levers to concrete outcomes such as timeliness, quality, and waste reduction. This synthesis not only motivates the conceptual framework and propositions in Section 4 but also justifies the later use of TOC and Contingency Theory as complementary lenses for specifying how engagement alleviates systemic bottlenecks (TOC) while adapting to context-specific contingencies (Contingency Theory).

III. THEORETICAL FOUNDATIONS

3.1 Theory of Constraints (TOC)

The Theory of Constraints (TOC) argues that system performance is governed by its most critical bottleneck and that improvement requires alleviating such constraints (Machado, 2023). While originally developed in manufacturing, TOC has been applied in diverse operational domains. In tea smallholdings, disengaged employees function as a human bottleneck: absenteeism, low motivation, and resistance to innovation delay plucking rounds, reduce adoption of new practices, and undermine consistency. From a TOC perspective, inefficiency arises not only from agronomic limits but from disengagement as a binding human constraint. Extending TOC in this way shifts the focus from purely technical levers to behavioural mechanisms, linking micro-level workforce engagement to strategic-level performance outcomes (Knop, 2024).

3.2 Contingency Theory

Contingency Theory posits that organisational effectiveness depends on the fit between managerial practices and contextual conditions. In fragmented, resource-scarce environments such as tea smallholdings, engagement practices cannot be imported wholesale from formal industrial settings (Mann, 2024). Instead, interventions such as participatory welfare schemes, peer monitoring, and context-specific training must be tailored to socio-cultural realities. In doing so, Contingency Theory connects operational practices with strategic adaptation in volatile environments. It therefore provides a framework for explaining why engagement strategies succeed in some agribusiness contexts but fail in others, highlighting the role of cultural and institutional alignment. By situating engagement as a contingent mechanism of efficiency, this paper broadens the theory's scope from structural or technological fit to behavioural and cultural adaptation in smallholder systems (Rahim, 2024).

3.3 Justification for Theoretical Choice

While the Resource-Based View (RBV) and Institutional Theory remain valuable in explaining how firms accumulate resources and gain legitimacy, they offer limited traction for unpacking the micro-mechanisms through which disengagement creates bottlenecks or why engagement interventions succeed unevenly across contexts. RBV treats engagement as a valuable and inimitable resource but does not illuminate the processes by which disengagement constrains throughput. Similarly, Institutional Theory highlights pressures for conformity but struggles to explain how micro-level engagement failures translate into efficiency loss (Vaszun & Koczkaš, 2024). TOC and Contingency Theory are therefore positioned as more fit-for-purpose: TOC identifies engagement as a systemic bottleneck, while Contingency Theory explains the variation in how such bottlenecks manifest and must be addressed across contexts. Together, they strengthen the strategic management perspective by linking micro-level engagement practices to firm-level efficiency outcomes, thereby bridging behavioural mechanisms with strategic resource deployment (Silva et al, 2024).

3.4 Integrating TOC and Contingency Theory in the Conceptual Model

The integration of TOC and Contingency Theory provides a robust foundation for the conceptual model. TOC highlights engagement as a universal constraint on operational efficiency, while Contingency Theory underscores the need for context-specific alignment of engagement mechanisms. This dual framing also surfaces a productive tension: TOC assumes universality of bottlenecks, whereas Contingency Theory emphasises variability of contextual conditions. The model leverages this tension to argue that engagement must be treated simultaneously as a universal constraint and a contextually adaptive mechanism (Bilinovics-Sipos, 2023). Training and welfare are theorised as enabling levers: they reduce the constraint of disengagement while ensuring adaptation to socio-cultural realities. This synthesis offers a richer account of how engagement drives efficiency in smallholder agribusiness.

3.5 Contribution to Extending Theory

By embedding employee engagement within TOC and Contingency Theory, this paper contributes to strategic management and agribusiness literature in three ways. First, it extends TOC from a technical theory of process optimisation to a socio-behavioural account of how human constraints affect system performance (Silva, 2024). Second, it expands Contingency Theory by demonstrating that behavioural and cultural fit, not only structural or technological alignment, is central to organisational efficiency in smallholder contexts. Third, it integrates both perspectives to advance a strategic management-oriented framework that positions engagement as a determinant of efficiency rather than a peripheral HR issue. This reconceptualisation also opens avenues for future theorising on how behavioural constraints interact with technical and institutional constraints, advancing integrative models of efficiency in agribusiness and other labour-intensive sectors, and providing a platform for future empirical work using SEM to test these mechanisms (Opara, 2025).

IV. CONCEPTUAL FRAMEWORK AND PROPOSITIONS

As a conceptual paper, this study develops a framework grounded in the Theory of Constraints (TOC) and Contingency Theory to reconceptualise employee engagement as a strategic determinant of operational efficiency. Engagement is theorised as both a constraint-reducing mechanism (TOC) and a contextually adaptive practice (Contingency Theory). Training and welfare act as enabling levers: training builds competence and strengthens the psychological contract, while welfare sustains long-term commitment and stabilises labour supply. Together, these mechanisms reinforce engagement and direct it towards efficiency outcomes such as timeliness, productivity, and resource optimisation.

From this framework, the following conceptual propositions are advanced:

P1: Employee engagement functions as a constraint-reducing mechanism that alleviates human bottlenecks and enhances efficiency.

P2: Training practices enhance employee engagement, which in turn improves efficiency outcomes.

P3: Welfare provisions sustain employee engagement, ensuring long-term consistency and efficiency gains.

This dual-theoretical framing surfaces a productive tension: TOC assumes the universality of bottlenecks, while Contingency Theory emphasises the variability of contextual conditions. The model leverages this tension to argue that engagement must be treated simultaneously as a universal constraint and a contextually adaptive mechanism.

V. METHODOLOGICAL CONSIDERATIONS: A FUTURE RESEARCH AGENDA

Although conceptual, this paper outlines a methodological roadmap for validating the proposed framework in future empirical studies. Given the study's focus on testing causal pathways between engagement, training, welfare, and operational efficiency, a quantitative design is recommended. The empirical context is Sri Lanka's tea smallholder sector, comprising nearly 500,000 registered smallholders who collectively contribute more than 70% of the country's green leaf production.

To address the scale and heterogeneity of this population, a stratified random sampling strategy is proposed across major tea-growing districts (e.g., Kandy, Nuwara Eliya, Badulla, Galle, and Rathnapura). Stratification is justified by the framework's contingency-based logic, which recognises socio-economic, geographic, and managerial diversity. Drawing on Krejcie and Morgan's (1970) sample size guidelines, approximately 400–420 respondents would ensure generalisability, accounting for non-response while maintaining statistical robustness. The unit of analysis will be the individual smallholder, consistent with the study's focus on managerial and engagement practices at the farm level.

Construct measurement would employ validated Likert-scale instruments. Employee engagement would be operationalised across psychological, behavioural, and relational dimensions (Meyer & Allen, 2020; Saks & Gruman, 2014). Training and welfare would be assessed via indicators of relevance, adequacy, and perceived support (e.g., extension services, healthcare, housing), while operational efficiency would be measured multidimensionally through productivity, timeliness, labour utilisation, and cost-effectiveness.

For analysis, Structural Equation Modelling (SEM) is recommended, given its ability to capture multidimensional constructs, test mediation, and correct for measurement error. SEM provides the sophistication needed to evaluate the complex, mediated relationships central to the framework, offering advantages over traditional regression techniques in labour-intensive agribusiness contexts.

Potential methodological challenges include smallholder fragmentation, literacy variation, and self-report bias. These can be mitigated through field-based survey administration by trained enumerators, translation into Sinhala and Tamil, and triangulation with secondary data (e.g., cooperative and factory records). Such safeguards would strengthen internal validity and enhance transferability of the findings beyond Sri Lanka.

5.1 Illustrative Evidence

To provide preliminary support for the framework's relevance, a **pilot study** was conducted with 30 tea smallholders. Initial reliability tests indicated strong internal consistency across constructs (Cronbach's Alpha

values ranged from 0.94 to 0.98), suggesting robustness of the proposed measures, though some refinement will be required to avoid redundancy. Descriptive insights underscored persistent structural challenges, including labour shortages, limited training opportunities, and inadequate welfare provisions. Notably, higher levels of reported engagement were associated with timelier plucking and more efficient labour utilisation, while access to training and welfare appeared to stabilise workforce availability.

While not intended as empirical validation, these preliminary insights lend **illustrative support** to the proposed framework and justify progression to full-scale testing using SEM. Future research may extend this methodological design to other labour-intensive agribusiness contexts in Asia, Africa, and Latin America, where similar efficiency challenges persist.

VI. EXPECTED CONTRIBUTIONS

6.1 Theoretical Contributions

This paper makes three contributions to theory. First, it reconceptualises employee engagement as a strategic determinant of operational efficiency, shifting it from a peripheral HR concern to a core strategic management issue in agribusiness. Second, it extends TOC and Contingency Theory: TOC is broadened to include human bottlenecks, while Contingency Theory is expanded to encompass cultural and behavioural alignment. Third, it develops a testable conceptual framework with propositions that open new avenues for theorising how behavioural, technical, and institutional constraints interact in labour-intensive systems.

6.2 Practical Contributions

For practitioners, the framework identifies training and welfare as strategic levers that strengthen and sustain engagement. It offers actionable insights for designing competency-based training programmes and welfare schemes that stabilise labour availability and reduce absenteeism. By reframing welfare as a strategic investment, the model provides smallholders and industry actors with concrete pathways to achieve efficiency and competitiveness in global markets.

6.3 Policy contributions

For policymakers, the framework highlights the need to reorient extension services and development programmes away from solely agronomic solutions towards engagement-driven strategies. Embedding behavioural components within technical interventions can produce more sustainable efficiency gains. Importantly, the framework provides lessons not only for Sri Lanka's tea sector but also for other emerging-economy agribusiness systems facing similar labour-intensive efficiency challenges.

VII. CONCLUSION

This conceptual paper positions employee engagement as a strategic catalyst for operational efficiency in Sri Lanka's tea smallholder sector. By integrating TOC and Contingency Theory, it provides a dual-theoretical lens: engagement is simultaneously a universal constraint and a contextually adaptive mechanism. Training and welfare are identified as enabling levers that reinforce engagement and translate it into measurable efficiency outcomes.

As a conceptual contribution, the paper is limited by the absence of empirical validation. Future research should test the propositions through quantitative methods such as SEM and extend the analysis to comparative agribusiness contexts. Despite these limitations, the paper advances both theory and practice: it reframes engagement as a strategic resource in agribusiness, extends two organisational theories into new domains, and provides actionable guidance for policymakers and practitioners in designing engagement-driven efficiency interventions.

REFERENCES

- [1] Food and Agriculture Organization of the United Nations (FAO), *Current global market situation and medium-term outlook: Tea*, FAO, 2024. Available at: <https://www.fao.org/markets-and-trade/commodities-overview/beverages/tea/en> (Accessed: 8 September 2025).
- [2] Sri Lanka Tea Board, *Annual report: performance of the tea industry in Sri Lanka*, 2022. Available at: <https://www.srilankateaboard.lk> (Accessed: 8 September 2025).
- [3] M. Fowler and A. Monteiro, From resilience to sustainability: exploring key stakeholders in Brazilian agribusiness, *RAUSP Management Journal*, 60(1), 2025, 14–29.
- [4] H.S.R. Rosairo and D.J. Potts, Agronomic practices and productivity challenges in Sri Lanka's tea sector, *Asian Agribusiness Journal*, 8(2), 2016, 133–148.
- [5] S.B. Ranasinghe and D. Wickramasinghe, Unveiling a postcolonial neoliberalism: hybridised controls and emancipatory potentials for tea-plucking women in Sri Lanka, *Accounting, Auditing and Accountability Journal*, 34(3), 2021, 651–679. DOI:10.1108/AAAJ-12-2018-3785.
- [6] J.P. Meyer and N.J. Allen, *Employee commitment and engagement: conceptual foundations and empirical research* (London: Routledge, 2020).

- [7] A.M. Saks and J.A. Gruman, What do we really know about employee engagement?, *Human Resource Development Quarterly*, 25(2), 2014, 155–182. DOI:10.1002/hrdq.21187.
- [8] Y. Xie, L. Chen and H. Zhou, Organisational culture and agribusiness efficiency, *Asian Journal of Management Research*, 16(3), 2022, 299–315.
- [9] R. Kamalakkannan, H. Perera and T. Senanayake, Labour management, working culture, and operational efficiency in South Asian plantations, *International Journal of Agricultural Management*, 9(1), 2020, 56–70.
- [10] H.M. Gunathilake and R. Rathnayake, Challenges in tea smallholder productivity: a working culture perspective, *Sri Lanka Journal of Agribusiness*, 12(1), 2021, 77–94.
- [11] Q. Ngo and T. Le, Role of corporate social responsibility on firm performance in emerging economy: the mediating role of access to finance and business model innovation, *Cogent Business and Management*, 10(2), 2023, 2232585. DOI:10.1080/23311975.2023.2232585.
- [12] D.R. Rahadi, Hadli, S. Ermelia, A. Mario, Hermanto and N.N.A. Salmah, The influence of work productivity, employee satisfaction and organizational strategy on human resource development, *American International Journal of Business Management (AIJBM)*, 7(12), 2024, 202–207.
- [13] S. Namagembe, Small and medium enterprise agro-processing firms supply chain competencies and performance, *Management Research Review*, 46(4), 2023, 265–284.
- [14] M. Naeem, W. Ozuem, K. Howell and S. Ranfagni, A step-by-step process of thematic analysis to develop a conceptual model in qualitative research, *International Journal of Qualitative Methods*, 2(2), 2023, 116–144.
- [15] T. Girynugraha, Developmental psychology in workplace transformation: the role of emotional intelligence, *Asian Journal of Psychology*, 18(2), 2023, 102–118.
- [16] R. Setiawan, M. Veronica and Y. Yeni, The influence of work supervision and career development on employees' work productivity at PT Palembang Ambassador's Graha, *Journal of Education and Teaching Review (JRPP)*, 7(2), 2024, 4479–4490.
- [17] I.A. Rifa, The influence of work discipline on employee performance in the Secretariat of the West Java provincial education service, doctoral diss., Indonesian University of Education, 2023.
- [18] M. Sousso, An examination of the differences in the funding of minority-owned businesses (small and large) compared to non-minority businesses, doctoral diss., Walden University, 2024.
- [19] P.H. Patel, A.K. Angrish and V. Nadda, A cross-sector comparison of industry 5.0: digital technologies in supply chain management of FMCG and the automotive sector, in *Opportunities and Challenges of Business 5.0 in Emerging Markets* (IGI Global, 2023), 99–123.
- [20] M.P. Machado, Exploratory decision robustness analysis of the Theory of Constraints, *Computers & Industrial Engineering*, 173, 2023, 109176. DOI:10.1016/j.cie.2023.109176.
- [21] K. Knop, Using the Theory of Constraints thinking process tools to solve critical problems in the organization, *Scientific Papers of Silesian University of Technology. Organization and Management Series*, 197, 2024, 305–331. DOI:10.29119/1641-3466.2024.197.18.
- [22] S. Mann, Farming without farms? Challenges for organisational..., *International Journal of Organisational Theory and Behaviour*, 27(1), 2024, 1–13. DOI:10.1108/IJOTB-11-2022-0219.
- [23] S.N.S.M. Rahim, The moderating role of barriers to agility and their impacts on organisational performance, *International Journal of Academic Research in Economics and Management Sciences*, 13(4), 2024, 71–91. Available at: https://hrmars.com/papers_submitted/22847/the-moderating-role-of-barriers-to-agility-and-their-impacts-on-organisational-performance.pdf (Accessed: 9 September 2025).
- [24] B. Vaszkun and S. Koczkás, Contingency theory: no “one best way” to manage organizations, in *International Management and Organisation: Insights...* (Budapest: Corvinus University, 2024), 22–31.
- [25] G.S. Silva, D.P. Lacerda and J. Denicol, How important is the Theory of Constraints (TOC) to supply chain management? An assessment of its application and impacts, *Computers & Industrial Engineering*, 174, 2024, 109253.
- [26] J. Bilinovics-Sipos and R.Z. Reicher, Overview of the concepts of bottleneck in the operation process, *Zeszyty Naukowe. Organizacja i Zarządzanie / Politechnika Śląska*, 170, 2023, 55–67. DOI:10.29119/1641-3466.2023.170.3.
- [27] S. Opara, The universal, contingency or configurational HRM approaches: exploring management patterns, *Journal of Organizational Behavior*, 45(2), 2025, 112–119.
- [28] R.V. Krejcie and D.W. Morgan, Determining sample size for research activities, *Educational and Psychological Measurement*, 30(3), 1970, 607–610.

*Corresponding Author: W. A. M. Hashini Fernando¹

¹ Postgraduate Centre, Management and Science University, Malaysia