

Linking Training to Performance: A Qualitative Study of Structured Development Programs Using the Nominal Group Technique

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ABSTRACT

Organizations worldwide continue to invest heavily in structured development programs (SDPs) to strengthen employee knowledge, skills, and attitudes, aiming to improve both individual and organizational performance. Yet evidence on whether training translates into sustained outcomes remains mixed. This study investigates SDPs implemented in three Malaysian companies representing retail pharmacy, manufacturing, and automotive sectors, with a total of 64 participants. A qualitative design was employed using the Nominal Group Technique (NGT) to collect and prioritize participant perspectives. The study is theoretically grounded in Kirkpatrick's Four-Level Evaluation Model and Human Capital Theory, which together explain how training outcomes emerge at both the individual and organizational levels. Findings reveal that employees perceived notable improvements in the application of job-related knowledge, communication, teamwork and collaboration, as well as a clearer understanding of performance expectations. Managers also observed improvements in customer service, workflow efficiency, and coordination. However, sustaining motivation beyond the training period emerged as a persistent challenge. Theoretically, the study extends Kirkpatrick's model by highlighting sector specific mediators and the moderating role of post-training motivation, while also refining Human Capital Theory by demonstrating that organizational systems and reinforcement mechanisms shape the extent to which training investments yield long-term productivity. Methodologically, it demonstrates the value of NGT as a participatory tool for evaluating training outcomes. Practically, the findings provide actionable insights for HR managers and policymakers, particularly in supporting Malaysia's HRD Corp agenda.

Keywords: Structured Development Program, Employee Performance, Nominal Group Technique, Human Capital, Training Evaluation

INTRODUCTION

Employee training remains a cornerstone of organizational strategy to enhance workplace performance and adaptability in an increasingly dynamic global business environment. Globally, firms invest billions annually in technical and soft skills training to ensure employees can meet modern workplace demands (Salas et al., 2012). Structured development programs (SDPs) have been widely implemented, yet debate continues on their effectiveness in sustaining long-term outcomes (Burke & Hutchins, 2007). In Asia, training has been promoted as a driver of productivity and competitiveness. Evidence from Vietnam and China shows structured training programs improve knowledge, behavior, and workplace practices (Nguyen et al., 2024; Liu et al., 2025). However, other studies argue that without reinforcement, training effects diminish quickly (Greenan, 2023; Shah & Khan, 2023). In Malaysia, training is both a corporate and national priority. HRD Corp launched the National Training Index and HRD-TEE in 2023 to benchmark training effectiveness and ensure behavioral application beyond satisfaction surveys (HRD Corp, 2023). Research on graduate employability further emphasizes that Malaysian employers prioritize communication, teamwork, and problem-solving skills (Nafukho et al., 2023).

This study investigates the effectiveness of SDPs implemented in three Malaysian companies: a retail pharmacy, a manufacturing firm, and an automotive company. Each program combined cognitive assessments with group-

based assignments to enhance both technical and interpersonal skills. The organizational expectation was improved employee performance and, indirectly, stronger firm performance. To investigate whether these expectations were realized, this study was guided by the following research questions:

1. How do participants perceive the effectiveness of SDPs in enhancing their knowledge, skills, and attitudes?
2. What factors, as identified through the Nominal Group Technique (NGT), most strongly contribute to improved employee performance?
3. How do employee-level outcomes translate into perceived organizational benefits?

LITERATURE REVIEW

Globally, structured development programs (SDPs) are systematic interventions designed to improve employee capabilities through deliberate instructional design, clear objectives, and evaluation mechanisms. Unlike ad-hoc training, SDPs aim to yield both immediate and long-term performance outcomes (Burke & Hutchins, 2007). Meta-analyses show that structured approaches lead to stronger transfer of learning into practice compared to informal or one-off sessions (Salas et al., 2012). However, despite this promise, some studies highlight that the effects of training often decline over time when organizational reinforcement mechanisms are absent (Greenan, 2023). These global findings suggest that while training is essential, its long-term impact depends on contextual and organizational factors.

In the Asian region, structured training has been associated with significant improvements in both technical and behavioral competencies. For instance, Nguyen et al. (2024) found that a clinical training program in Vietnam improved not only participants' knowledge but also observable workplace behaviours. Similarly, Liu et al. (2025) reported that standardized nurse training in China enhanced professional competence and patient outcomes. Yet not all studies report positive results. Shah and Khan (2023) noted that despite substantial investments, many organizations in Asia still struggle with training transfer, often due to limited managerial support and misalignment between training content and job requirements. This indicates a regional gap, as training initiatives often demonstrate effectiveness in theory but require stronger organizational integration to sustain outcomes in practice. In Malaysia, these concerns are particularly relevant given the government's emphasis on workforce development as part of national policy. HRD Corp introduced the National Training Index (NTI) and the Training Effectiveness Evaluation (HRD-TEE) framework in 2023 to measure training outcomes beyond satisfaction indicators (HRD Corp, 2023). Local studies also reveal that employers consistently rank soft skills above technical knowledge, with communication and teamwork emerging as top priorities (Nafukho et al., 2023). Jamaludin et al. (2023) further highlight that while technical upskilling has progressed, embedding collaboration and adaptability into daily practice remains challenging for many organizations.

Building on this work, recent studies highlight that the effectiveness of training is closely linked to the quality of communication and collaboration among employees. They serve as mediators that enable technical skills to translate into performance improvements. Improved communication reduces duplication of tasks, while stronger teamwork supports workflow efficiency (Nafukho et al., 2023). Conversely, without robust collaborative structures, even technically sound training may fail to generate lasting improvements (Shah & Khan, 2023). This underscores the need to evaluate training not only on knowledge acquisition but also on its ability to foster interaction and shared accountability within organizations.

Anchored in these debates, this study draws on two theoretical perspectives. Kirkpatrick's Four-Level Evaluation Model serves as a framework for assessing training outcomes through four dimensions, which include reaction, learning, behavior, and results. The model has been widely applied in sectors such as healthcare, banking, and education, although scholars continue to question its capacity to establish clear causal links to organizational performance (Bahl et al., 2024; Yang et al., 2025). Human Capital Theory (Becker, 1993) complements this by offering an economic rationale for training, framing it as an investment that enhances productivity and competitiveness. When used together, these theories offer a holistic framework where Kirkpatrick's model assesses individual-level outcomes and Human Capital Theory clarifies the broader organizational rationale for training investments.

The conceptual framework developed for this study serves as a guiding structure that links theory, data collection, and interpretation. It integrates Kirkpatrick's Four-Level Evaluation Model which emphasizes reaction, learning, behavior, and results with Human Capital Theory, which views training as an investment that enhances organizational productivity. In qualitative research, a conceptual framework functions as a guiding framework that supports the interpretation of participants' experiences in relation to the underlying theoretical context, rather than as a tool for hypothesis testing (Maxwell, 2013; Ravitch & Carl, 2021). Accordingly, this framework illustrates how structured development programs (SDPs) influence employees' knowledge, skills, and attitudes, which in turn drive performance outcomes at both the individual and organizational levels. It also incorporates post-training motivation as a moderating factor that affects the sustainability of these outcomes.

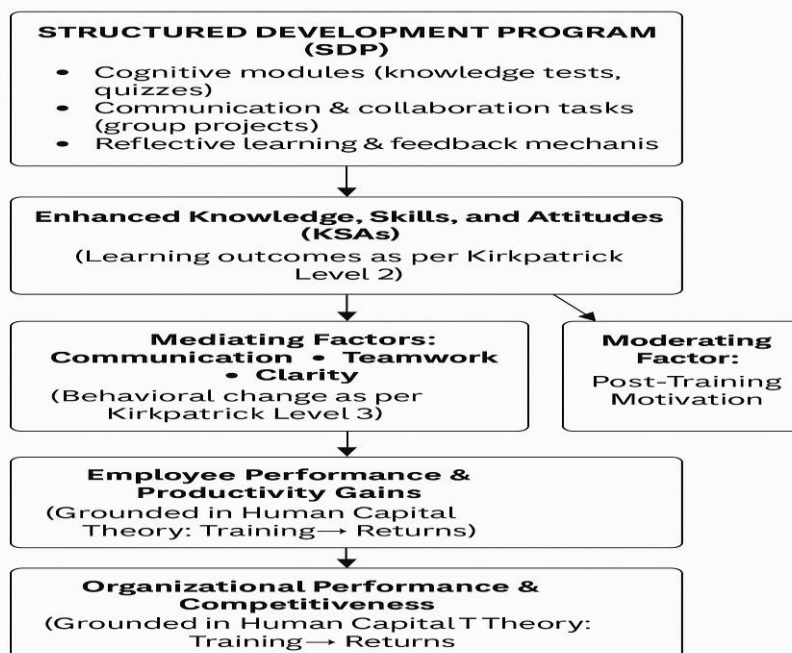


Figure 1. Conceptual framework linking Structured Development Programs to performance outcomes.

METHODOLOGY

This study adopted a qualitative design to explore how structured development programs (SDPs) contribute to employee and organizational performance. A qualitative approach was appropriate because the research questions focused on understanding participants' perceptions, identifying underlying factors, and linking individual experiences to broader organizational outcomes (Creswell, 2013). The NGT was selected as the primary method of data collection as it provides a structured and participatory approach that enables participants to generate, discuss, and prioritize ideas efficiently within a single session, reducing both time and cost (Delbecq et al., 1975; Gusmão et al., 2024). Unlike unstructured interviews or surveys, NGT balances individual input with group consensus, ensuring that minority views are not overshadowed by dominant voices (Harvey & Holmes, 2012). Although the NGT method ensured structured participation, the study acknowledges that consensus driven approaches can risk overlooking minority perspectives. To mitigate this, each NGT session included an open-discussion phase before ranking, allowing participants to elaborate on unique or dissenting views. During analysis, outlier ideas those raised by fewer participants but offering distinct insights were retained as supplementary themes. For instance, in the manufacturing company, a small subset of participants emphasized the need for ergonomic awareness training, which, while not highly ranked, was still discussed with management. This inclusive approach enhanced the comprehensiveness of the findings and upheld methodological rigor in representing diverse perspectives.

The study included 64 employees from three Malaysian companies in the sectors of retail pharmacy, manufacturing, and automotive. In qualitative research, the validity and generalizability of findings are not determined by statistical power or large, random samples, but by the depth of information and the achievement of data saturation (Guest et al., 2020). Data saturation is the point at which no new themes, concepts, or insights

are emerging from the data, indicating that sufficient information has been collected to understand the phenomenon under study. Common qualitative research suggests that 20–30 interviews can be sufficient in many studies to reach saturation, especially in homogeneous groups (Creswell & Poth, 2018). Specifically, Guest et al. (2006) found that within the first 12 interviews, 92% of all themes were identified, and saturation was consistently achieved by this point. Similarly, other experts have confirmed that sample sizes between 9 and 17 participants are often sufficient to reach saturation in studies using in-depth interviews or focused group methods (Hennink et al., 2017; Baker & Edwards, 2012).

In line with these recommendations, the current study included a sample size that exceeds the range commonly required for data saturation, ensuring sufficient depth and diversity of perspectives across the participating organizations. Company A (Retail Pharmacy) contributed 20 participants, primarily pharmacists and customer service staff, with most aged between 20 and 35 years. Company B (Manufacturing) contributed 15 participants, mainly technicians from engineering, quality, and administrative departments, aged between 30 and 55 years. Company C (Automotive) included 29 participants, mostly customer service and leasing staff, with the majority aged 25 to 40 and a smaller group of five participants aged 46 years and above.

Overall, the sample consisted of 36 male and 28 female employees. In terms of working experience, 27 participants had less than five years, 22 had between five and ten years, and 15 had more than ten years. Table 1 summarizes the demographic distribution across the three companies, highlighting sectoral composition, age groups, gender, and years of experience. Including a range of industries and demographic profiles enriched the data by capturing different organizational cultures and workforce dynamics.

Table 1. Participant Demographics by Company

Company & Sector	N	Main Roles	Age Range	Gender Distribution	Years of Experience	Notes
Company A (Retail Pharmacy)	20	Pharmacists, customer service staff	20–35	12 Female 8 Male	Majority < 5 years	Young workforce, customer facing roles
Company B (Manufacturing)	15	Technicians (engineering, quality, admin)	30–55	10 Male 5 Female	5–15+ years	Mid-career and senior technical staff
Company & Sector	N	Main Roles	Age Range	Gender Distribution	Years of Experience	Notes
Company C (Automotive)	29	Customer service, leasing / rental staff	25–40 (5 > 46)	18 Male 11 Female	Mixed	Blend of customer facing and support roles

Purposive sampling was employed to ensure participants had direct and relevant experience with SDPs. To strengthen validity, participants were filtered using the question: “Have you fully participated in the structured development program conducted by your company within the past six months?” Only employees who answered “yes” were included, ensuring that responses reflected firsthand experiences rather than general impressions. This strategy helped maintain a focused and credible dataset, which is essential in qualitative research (Patton, 2015).

The study was conducted in three stages. First, participants individually generated ideas about the outcomes and challenges of SDPs in their workplace. Second, ideas were shared in a round-robin format, ensuring equal contribution from each participant. Third, participants clarified and discussed these ideas before independently ranking them in order of importance. The ranked responses were then aggregated to identify group priorities, which were later coded thematically. This structured process allowed the research team to capture both consensus and divergence in perceptions, while avoiding the pitfalls of unstructured group discussions such as dominance

bias. The data were analysed using thematic analysis (Braun & Clarke, 2021). Both the ranked outcomes from NGT and the qualitative comments provided by participants were examined. The ranking provided a measure of priority, while thematic coding captured the depth of meaning behind participants' responses.

To ensure rigor, triangulation was conducted by comparing participant perspectives with observations and feedback from managers. This provided additional insights into whether the perceived training outcomes aligned with organizational expectations. The trustworthiness of the study was further strengthened by applying Lincoln and Guba's (1985) four established criteria, namely credibility, transferability, dependability, and confirmability. Credibility was supported through triangulation of data sources. Transferability was achieved by providing thick descriptions of the organizational and demographic context. Dependability was maintained through a clear audit trail of the research process, and confirmability was reinforced by reflexive notetaking and peer debriefing. Together, these measures ensured that findings were both robust and contextually grounded.

Data Analysis And Interpretation

The NGT sessions generated both ranked outcomes and qualitative comments, revealing how participants perceived the relationship between SDPs and their performance. Analysis combined aggregated rankings with thematic coding of participant comments (Braun & Clarke, 2021). To strengthen interpretation, demographic context was considered alongside participant priorities. Table 2 consolidates the ranked outcomes from NGT sessions and verbatim examples. The integration of rankings with illustrative quotes enabled triangulation between numerical priorities and qualitative insights. For example, "improved communication" consistently ranked first or second across all companies, and participants' verbatim accounts clarified how this translated into reduced duplication in Company B and faster service coordination in Company C. Similarly, the "post-training motivation" theme, although unranked, emerged consistently during open discussion, reinforcing its relevance as a cross-sectoral challenge.

In addition to participant perspectives, triangulation was reinforced through managerial feedback obtained during post-session debriefs. Managers generally corroborated employee perceptions, emphasizing visible behavioral improvements and operational efficiencies. For example, a retail pharmacy manager remarked, *"The training has noticeably improved how our front-line staff communicate with customers where complaints have dropped since the sessions."* Similarly, a manufacturing supervisor noted, *"Technicians now solve minor quality issues on the spot instead of escalating them and that's a big change."* In the automotive firm, a senior operations manager observed, *"Team coordination between service and leasing units is smoother including turnaround time for vehicle delivery has improved."* These managerial insights validated the NGT outcomes and demonstrated that perceived improvements translated into tangible operational gains. However, some managers cautioned that *"momentum tends to slow down after a few months unless refresher sessions are held,"* reinforcing the recurring issue of sustaining post-training motivation.

Overall, Table 2 provided a richer understanding of how SDPs translated into both individual and organizational benefits. This triangulated approach improved the credibility and depth of the findings.

Table 2. Key Factors Identified via Nominal Group Technique Sessions

Outcome Factor	Company A (Retail Pharmacy)	Company B (Manufacturing)	Company C (Automotive)	Description / Example Participant Comments
Improved communication	Rank #1. <i>"We help each other more during peak hours."</i>	Rank #2. <i>"We share information more openly now, instead of keeping things to ourselves."</i>	Rank #1. <i>"We pass messages faster between service and leasing teams."</i>	Better information flow strengthened teamwork and reduced duplicated efforts.

Applied job knowledge	Rank #2. <i>"I feel more confident answering customer questions."</i>	Rank #1. <i>"I can handle troubleshooting better without waiting for my supervisor."</i>	Rank #2. <i>"I can explain leasing terms clearly to clients now."</i>	Technical knowledge applied directly to work tasks.
Teamwork and collaboration	Rank #3. <i>"We support each other more during busy times."</i>	Rank #3. <i>"It's easier to coordinate tasks after training."</i>	Rank #4. <i>"Different teams work together better now."</i>	Stronger peer support and cooperation across roles.
Understanding of expectations	Rank #4. <i>"Now I know the sales target and service standard."</i>	Rank #5. <i>"The production standard we must meet is clearer."</i>	Rank #3. <i>"I know exactly how to explain processes to customers."</i>	Clearer awareness of performance benchmarks.
Outcome Factor	Company A (Retail Pharmacy)	Company B (Manufacturing)	Company C (Automotive)	Description / Example Participant Comments
Post-training motivation (challenge)	<i>"Motivation faded after some weeks."</i>	<i>"It's hard to keep the same drive once training is over."</i>	<i>"We need refreshers to stay enthusiastic."</i>	A consistent challenge across all three companies.

DISCUSSION

The aim of this study was to examine how structured development programs (SDPs) contribute to employee and organizational performance across three Malaysian companies. Using the Nominal Group Technique (NGT), the study captured employees' perspectives, prioritized the most critical outcomes, and identified challenges in sustaining training benefits. The discussion is organized around the three research questions, which collectively address (i) employees' perceptions of training effectiveness, (ii) the key factors that drive improved performance, and (iii) the ways in which individual-level outcomes translate into organizational benefits. Situating the findings within both regional evidence and global literature allows for a nuanced interpretation of the extent to which SDPs fulfill their intended purpose and the conditions under which they succeed or fall short.

RQ1: How do participants perceive the effectiveness of SDPs in enhancing their knowledge, skills, and attitudes?

Employees across the three companies perceived SDPs as effective in enhancing knowledge, communication, and confidence. These findings echo prior Asian studies (Nguyen et al., 2024; Liu et al., 2025), where structured training yielded observable behavioral improvements. From a theoretical standpoint, the results align with the learning and behavior levels in Kirkpatrick's Four-Level Evaluation Model, as participants reported both knowledge acquisition and visible changes in work practices. At the same time, consistent with critiques of Kirkpatrick, sustaining these behavioral changes beyond the training period proved difficult, as motivation declined without reinforcement (Shah & Khan, 2023). This suggests that while the model remains valid, organizations must integrate follow-up mechanisms to maintain outcomes.

RQ2: What factors, as identified through the Nominal Group Technique, most strongly contribute to improved employee performance?

The NGT rankings highlighted communication, applied job knowledge, teamwork, and clarity of expectations as the most important drivers of improved performance. These findings align with Kirkpatrick's behavior-to-results linkage, which suggests that training shapes employee behavior through key mediating factors and, in turn, enhances organizational outcomes. They also connect to Human Capital Theory, as these factors represent transferable skills that enhance employee productivity (Becker, 1993). However, opposing views in the literature caution that employees may prioritize immediate skill gains while overlooking higher-order competencies such

as creativity or innovation (Greenan, 2023). Furthermore, although NGT secures group consensus, it may underrepresent minority perspectives, meaning some nuanced outcomes could have been overlooked (Harvey & Holmes, 2012).

RQ3: How do employee-level outcomes translate into perceived organizational benefits?

Managers observed sector-specific improvements such as enhanced customer service in retail pharmacy, workflow efficiency in manufacturing, and stronger coordination in automotive. These perceived benefits align with the results level of Kirkpatrick's model, confirming that SDPs can yield firm-level outcomes when effectively designed and implemented. They also support the premise of Human Capital Theory, demonstrating that investment in training produces measurable returns in organizational performance (Becker, 1993). Obeng-Tuaah (2025) notes that in emerging economies, systemic barriers such as inadequate organizational support and resource limitations often hinder the translation of training efforts into tangible firm performance outcomes. These challenges emphasize the importance of integrating structured development programs into wider organizational development frameworks instead of implementing them in isolation.

The analysis strengthens the theoretical application of both Kirkpatrick's model and Human Capital Theory. In the retail sector, the emphasis on communication and customer interaction demonstrates how training effectively translates learning into tangible service outcomes. Within the manufacturing context, the focus on applied knowledge and adherence to quality standards reflects productivity driven human capital gains. In the automotive industry, improved coordination among teams illustrates the behavioral changes highlighted in Kirkpatrick's model. Together, these insights confirm that the effectiveness of SDPs depends not only on program design but also on sector-specific contexts, reinforcing the need for adaptive training strategies. Building on these findings, several implications for policy and practice can be drawn to help organizations, practitioners, and policymakers translate training outcomes into sustainable performance improvements.

Implications for Policy and Practice

1. Embed reinforcement mechanisms such as refreshers or mentoring to sustain motivation.
2. Tailor SDPs to sector-specific needs: customer service (retail), workflow efficiency (manufacturing), coordination (automotive).
3. Align findings with Malaysia's HRD Corp agenda, supporting NTI and HRD-TEE but also recognizing motivation as a critical factor.
4. Use participatory methods such as NGT instead of relying solely on satisfaction surveys.
5. Bridge theory and practice by applying Kirkpatrick and Human Capital Theory to guide evaluation.

CONCLUSION AND CONTRIBUTIONS

This study examined the effectiveness of structured development programs (SDPs) in linking training outcomes to employee and organizational performance across three Malaysian companies in the retail pharmacy, manufacturing, and automotive sectors. Using the Nominal Group Technique (NGT), it captured and prioritized participants' perspectives while triangulating these with managerial observations. The findings indicate that SDPs enhanced knowledge, communication, teamwork, and awareness of organizational expectations, thereby contributing to improved productivity and service quality. These outcomes confirm the utility of Kirkpatrick's Four-Level Evaluation Model in evaluating training at multiple levels and reaffirm Human Capital Theory's premise that investment in employee development yields organizational returns. At the same time, challenges such as post-training motivation underscore that training alone cannot guarantee sustainable outcomes unless reinforced by organizational systems and culture.

The study contributes to theory by extending Kirkpatrick's model with a sector-specific lens and highlighting motivation as a moderating factor in the transfer of training. It also refines Human Capital Theory by

demonstrating that the benefits of training are not automatic but contingent on organizational practices that support sustained application of skills. Methodologically, this research demonstrates the value of NGT as a participatory evaluation tool. Unlike conventional surveys or interviews, NGT allowed participants to collectively identify and prioritize training outcomes, producing actionable insights that directly inform organizational decision-making. For practitioners, the findings underscore the need to design SDPs that balance technical training with communication and collaboration skills. Sectoral differences also suggest that a “one-size-fits-all” approach is inadequate. Retail firms may prioritize customer service, manufacturing firms may emphasize workflow efficiency, and automotive companies may focus on coordination. For policymakers, the results support Malaysia’s HRD Corp agenda by providing evidence that structured training contributes to national productivity goals, while also highlighting the need for reinforcement mechanisms to sustain outcomes.

This study, however, has several limitations that should be acknowledged. First, the research was limited to three industries in Malaysia, namely retail pharmacy, manufacturing, and automotive. This focus narrows the scope of generalization. Future research should broaden the sectoral coverage to include areas such as healthcare, education, and public service organizations, where structured development programs may operate under different policy environments and workforce dynamics. Examining these sectors could reveal how contextual factors such as regulatory requirements, professional culture, and service delivery expectations influence the effectiveness of training initiatives. Second, while the qualitative approach provided rich and contextual insights, the use of longitudinal designs would allow researchers to track whether the behavioral and performance improvements observed after training are sustained over time. Monitoring employees’ progress several months or even a year after training could provide a clearer understanding of how reinforcement mechanisms, organizational support, and workplace changes affect long-term outcomes. Finally, incorporating multiple stakeholder perspectives, including those of managers, supervisors, and customers, would offer a more holistic understanding of how structured development programs contribute to both employee growth and organizational performance.

Overall, this research shows that SDPs, when combined with participatory evaluation techniques like NGT, can produce meaningful individual and organizational outcomes. By linking training to performance, it provides both theoretical refinement and practical guidance for organizations and policymakers seeking to maximize returns on training investments.

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