

Beyond Technology Implementation: User Experience and Sustained Professional Services Automation Utilisation in a Malaysian Ict Firm

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Abstract

Professional Services Automation (PSA) systems can improve project visibility and resource coordination, yet many organisations struggle to sustain employee use after implementation. This study examines the behavioural and experiential conditions associated with PSA utilisation in a Malaysian information and communication technology firm. A two-cycle action-research design combined qualitative evidence from nine project-management stakeholders with a survey of 30 employees. Initial findings revealed reactive updating, dependence on spreadsheets, limited data trust, duplicated reporting and unclear ownership. Practical training improved workflow understanding and confidence but did not eliminate uneven adoption. Survey measures for perceived usefulness, perceived ease of use, perceived enjoyment and utilisation were reliable (Cronbach's alpha = .880-.891). All three perceptions correlated significantly with utilisation ($r = .794-.928$, $p < .001$). The regression model explained 86.6% of utilisation variance, and enjoyment was the only significant unique predictor (beta = .777, $p < .001$). Although the small sample and multicollinearity require caution, the results indicate that sustained use depends not only on functional value but also on whether the system experience is clear, convenient and minimally frustrating. The paper reframes user experience as an operational requirement for enterprise-system institutionalisation.

Keyword: Enterprise Systems, Perceived Enjoyment, Professional Services Automation, Sustained Utilisation, Technology Acceptance, User Experience

Introduction

Information and communication technology (ICT) professional-service organisations manage simultaneous projects, specialist employees, client commitments and reporting requirements. Professional Services Automation (PSA) systems support these activities by integrating project information, resource allocation, time recording and performance monitoring. Nevertheless, technology creates value only when it is embedded in routine

work. Employees may continue using spreadsheets, email and informal communication when an enterprise system does not fit established practices or when its information is not trusted (Boudreau & Robey, 2005; Melville et al., 2004).

ABC Company, a pseudonym for a Malaysian ICT firm, had implemented PSA but employees still maintained information in Excel, Microsoft Teams, slides and personal documents. Updates were frequently completed before reporting deadlines rather than continuously. Unclear ownership, incomplete resource records and parallel reporting reduced data reliability and required manual verification. These behaviours raised a post-adoption question: why would employees continue avoiding an available system after receiving technical training? This paper therefore focuses on sustained utilisation and asks how perceived usefulness, ease of use and enjoyment shape employees' reported PSA use, and what the findings imply for enterprise-system user experience.

Literature Review

Digital transformation involves changes in organisational processes, capability and value creation, not simply technology acquisition (Vial, 2019). Uthamaputhran and Thoti (2024) similarly argue that digital adoption requires workforce skills, continuous learning and alignment between technology and organisational practice. This is especially important for PSA because its usefulness depends on accurate, timely and interdependent inputs from different project roles. Inconsistent updating reduces information quality and trust, encouraging employees to return to alternative tools and creating a cycle of low use and incomplete data.

The Technology Acceptance Model (TAM) proposes that perceived usefulness and perceived ease of use influence technology adoption (Davis, 1989). Usefulness reflects whether employees believe PSA improves performance, while ease of use concerns the effort required to learn and operate it. Recent work by Zhu and Uthamaputhran (2026) reinforces that usefulness and ease of use interact with digital literacy, self-efficacy, training and peer support. However, an organisation in which technology is already installed faces a continuance problem rather than an initial-adoption problem. Employees must repeatedly choose whether to update PSA or return to familiar alternatives. Their judgement therefore develops through actual experience, data quality and workflow fit.

Perceived enjoyment extends TAM by recognising intrinsic and affective responses to technology (Davis et al., 1992). In a workplace system, enjoyment does not mean entertainment. It refers to an experience that feels sufficiently clear, convenient, satisfying and free from unnecessary frustration. Repetitive navigation, duplicated data entry or uncertainty about the value of an update may discourage use even when employees recognise the system's potential usefulness. Conversely, immediate visibility, coherent workflows and useful feedback may make repeated interaction more positive. User experience is therefore connected to operational discipline: systems that are difficult or unrewarding to use are less likely to contain timely and complete information.

A socio-technical perspective integrates these arguments. PSA utilisation depends on employees' competence and perceptions, but also on workflow design, role clarity, management reinforcement and data governance. Action research is appropriate because it

combines systematic inquiry with iterative organisational change through diagnosis, action, evaluation and reflection (Coghlan, 2019).

Research on information-systems continuance distinguishes post-adoption use from initial acceptance, with studies examining factors such as satisfaction and perceived usefulness (Bhattacharjee, 2001). Enterprise-system research has also examined continued use in organisational settings, including the roles of usefulness, self-efficacy and facilitating conditions (See et al., 2019). These studies help explain why employees continue using systems, but the present study addresses a related practical question: how employees' experience of using an implemented system—including whether it feels clear, convenient and satisfying—relates to their reported use in everyday work. Building on TAM and its affective extension (Davis et al., 1992), this study examines perceived enjoyment alongside usefulness and ease of use. Its contribution is to investigate these perceptions in a PSA setting through two action-research cycles: the first diagnoses barriers and introduces practical training, while the second examines employees' reported perceptions after the intervention. This design connects technology-acceptance factors with the organisational conditions shaping routine system use.

Methodology

The study adopted a pragmatic mixed-method action-research design in ABC Company's project-management environment. Cycle One purposively involved nine stakeholders representing managerial, project, reporting, technical, resource-planning and client-facing roles. Semi-structured interviews, observations and organisational records were used to diagnose underutilisation. The intervention was a practical workshop using real project scenarios, standard update practices, workflow interdependence and peer learning. Pre- and post-intervention evidence was analysed thematically following Braun and Clarke's (2006) procedures.

Cycle Two surveyed 30 employees using 12 five-point Likert items: three each for perceived usefulness, perceived ease of use, perceived enjoyment and PSA utilisation. Analysis included Cronbach's alpha, descriptive statistics, Pearson correlations and multiple regression. Participation was voluntary, informed consent was obtained, and the company and participants were anonymised. The institutional ethics committee and approval number should be inserted before submission: [ethics committee; approval number].

Results

Cycle One Findings

Before the intervention, PSA operated mainly as a secondary reporting tool. Employees preferred Excel and informal communication because they were familiar and flexible. Some participants knew where to enter information but did not understand how their entries affected resource planning, reporting and management decisions. Responsibility for updating project, technical and allocation data was unclear. Informal support work was often absent from the system, while duplicated reports increased administrative effort. Incomplete data weakened trust and reinforced dependence on parallel tools.

After the workshop, participants reported stronger confidence, greater independence and improved understanding of PSA workflow. They used the system more purposefully during

project reviews, supporting clearer action ownership, better progress tracking, earlier risk visibility and improved information sharing. Formal resource visibility and peer learning also improved, while some manual follow-up was reduced. However, adoption remained uneven, informal workload was still incompletely captured and management reinforcement remained necessary.

Cycle Two Findings

All scales demonstrated good internal consistency: perceived usefulness ($\alpha = .891$), ease of use ($.880$), enjoyment ($.884$) and utilisation ($.881$). Mean scores were moderate, ranging from 2.99 for utilisation to 3.16 for usefulness and ease of use. Usefulness ($r = .794$), ease of use ($r = .842$) and enjoyment ($r = .928$) were positively associated with utilisation; all relationships were significant at $p < .001$.

The regression model was significant, $F(3, 26) = 55.975$, $p < .001$, and explained 86.6% of the variance in reported utilisation (adjusted $R^2 = .850$). Enjoyment was the only significant unique predictor ($\beta = .777$, $p < .001$); usefulness and ease of use became non-significant when all predictors were considered together. Because the sample was small and the enjoyment VIF was 5.508, the coefficient should be treated as exploratory rather than causal evidence.

Discussion

The results distinguish implementation from institutionalisation. PSA was technically available, but employees evaluated it against faster and more familiar alternatives. When information was incomplete, the system offered little immediate value, so users verified it elsewhere. Their workarounds then further weakened PSA data. This feedback loop shows that user experience includes not only interface design but also the quality, credibility and usefulness of the information returned to users. A technically simple system may still be experienced negatively when its data cannot be trusted.

The strong bivariate relationships support TAM: employees reporting greater usefulness and ease of use also reported greater utilisation. Nevertheless, enjoyment made the strongest unique contribution in the regression model. One interpretation is that usefulness and ease of use form part of a broader positive experience. Employees may use PSA consistently when it enables them to complete tasks with clarity, obtain reliable information and avoid duplicated effort. This interpretation aligns with Zhu and Uthamaputhran's (2026) view that acceptance is shaped by capability and facilitating support, and with Uthamaputhran and Thoti's (2024) emphasis on learning and organisational alignment during digital transformation.

The non-significant regression coefficients for usefulness and ease of use should not be interpreted as evidence that these factors are irrelevant. Their strong correlations with utilisation and the elevated VIF values indicate shared variance among the predictors. With only 30 respondents, the model cannot reliably separate closely related perceptions. The defensible conclusion is therefore that functional value, manageable effort and positive experience operate together. Enjoyment provides a useful direction for improvement, but it should not be treated as a standalone causal mechanism.

Implications for User Experience and Management

Management should treat PSA user experience as a property of the complete work process. Simplifying screens will have limited value if employees must still enter the same information into spreadsheets and presentation slides. The organisation should designate PSA as the official source for agreed project information, remove redundant internal reports and ensure that managers open the system during project reviews. Visible management use signals that accurate entries influence real decisions rather than merely satisfying an administrative requirement.

Governance and feedback are equally important. Each data category should have a named owner, a required update frequency and a clear quality standard. Employees should see how their entries affect resource allocation, risk monitoring and client reporting. Short feedback cycles can show users the operational benefit of accurate data and identify workflow friction. Scenario-based onboarding, refresher training and role-specific peer support should continue, because capability and experience develop together. Informal technical assistance and cross-project work should also be captured so that capacity information reflects actual workload.

Finally, evaluation should combine perception measures with system and performance evidence. Useful indicators include login and update frequency, completeness of mandatory fields, time required to prepare reports, number of manual status requests, proportion of informal work recorded, allocation accuracy and milestone performance. Tracking these measures before and after workflow changes would show whether an improved experience produces sustained utilisation and operational benefit.

The sequential design also produced organisational learning. Cycle One addressed capability, while Cycle Two showed that training could not resolve every barrier. Managers should not interpret inconsistent use simply as resistance. Employees may be responding rationally to duplication, uncertain responsibility, incomplete data or an inconvenient workflow; correcting these conditions is more useful than repeating compliance instructions.

Limitations

Several limitations affect interpretation. The study involved one organisation, nine qualitative participants and 30 survey respondents, so the findings cannot be generalised statistically to all ICT firms. The Cycle Two questionnaire was cross-sectional and self-reported, creating a risk of common-method bias. The predictors were strongly correlated, and the VIF for enjoyment indicates possible construct overlap. In addition, the same quantitative measures were not collected before the intervention, and no comparison group was available. Consequently, the regression identifies association rather than intervention impact. The insider-researcher role provided contextual understanding and access but may also have influenced participant responses and interpretation. Triangulation reduced this risk but could not eliminate it.

Conclusion

This study reframes PSA underutilisation as a post-adoption user-experience challenge. Practical training improved confidence and workflow understanding, but consistent use also depended on whether employees regarded the system as useful, manageable and satisfying.

All three perceptions were strongly associated with reported utilisation, while enjoyment produced the strongest unique coefficient in the exploratory regression. The result highlights the operational importance of convenience, clarity, data trust and reduced frustration. It does not establish causality, but it shows why training alone is insufficient. Sustained PSA utilisation requires the alignment of interface, workflow, governance, information quality and management behaviour.

Declarations

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