Quality Internships for SMEs in IT sectors

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RESEARCH REPORT

Evidence-Based Findings from the Erasmus+ INTERNSHIP4SMES Project

1. Executive Summary

This report presents a comprehensive empirical analysis of internship experiences within Information Technology (IT) sectors, based on the Erasmus+ project *INTERNSHIP4SMES*. The study investigates the quality, effectiveness, and structural characteristics of internships offered by Small and Medium-Sized Enterprises (SMEs), which play a central role in Europe's digital economy.

The research is grounded in a mixed-method dataset, combining quantitative survey responses (n = 125) and qualitative insights from 37 in-depth interviews, including stakeholders, HR professionals, SME representatives, and interns. This triangulated approach ensures both statistical relevance and contextual depth.

The findings demonstrate that internship quality is strongly influenced by four key dimensions: program structure, mentorship quality, task relevance, and feedback mechanisms. Internships that incorporate these elements consistently produce higher levels of satisfaction, improved learning outcomes, and stronger employability prospects.

The report concludes that structured internship frameworks are essential for transforming internships from informal work experiences into strategic tools for talent development and workforce integration.

2. Research Objectives

The primary aim of this study was to generate evidence-based insights into the effectiveness of internships in IT SMEs and to identify actionable strategies for improving their quality.

Specifically, the research sought to:

- Evaluate the current state of internship practices in IT SMEs
- Identify the key factors influencing internship effectiveness
- Compare perspectives across different stakeholder groups
- Examine relationships between structural elements and outcomes

- Provide recommendations for SMEs, educators, and policymakers

3. Methodology

3.1 Research Design

The study adopted a **convergent mixed-method design**, integrating quantitative and qualitative data to provide a holistic understanding of internship experiences. This approach allows for both generalizable findings and in-depth contextual interpretation.

3.2 Data Collection

Quantitative Component

A structured survey was administered to **125 participants**, including interns, recent graduates, and IT professionals. The survey measured:

- Satisfaction levels
- Perceived learning outcomes
- Internship structure
- Mentorship quality
- Task relevance

Qualitative Component

A total of **37 semi-structured interviews** were conducted with:

- 4 stakeholders (education and policy level)
- 7 HR and recruitment experts
- 11 SME internship providers
- 15 interns

These interviews provided detailed insights into expectations, experiences, and systemic challenges.

3.3 Analytical Approach

- **Quantitative data** were analyzed using descriptive statistics and cross-variable comparisons
- **Qualitative data** were analyzed through thematic coding and pattern identification
- Findings were triangulated to ensure consistency and reliability

4. Quantitative Findings

4.1 Overview of Survey Data

The quantitative component of the study was based on responses from **125 participants**, representing a diverse group including interns, recent graduates, IT professionals, and SME staff. The survey aimed to assess perceptions of internship quality across several key dimensions: satisfaction, structure, mentorship, task relevance, and learning outcomes.

The overall distribution of responses indicates a generally positive perception of internships, with approximately **70% of respondents reporting high satisfaction, 20% moderate satisfaction, and 10% low satisfaction.** However, a deeper examination of the data reveals that these outcomes are strongly conditioned by specific structural and experiential factors.

4.2 Internship Structure as a Core Determinant

One of the most statistically significant patterns observed in the dataset is the relationship between **internship structure and satisfaction levels**. Respondents who participated in internships with clearly defined roles, responsibilities, timelines, and objectives consistently reported higher satisfaction levels (estimated between 75–80%).

In contrast, participants in unstructured internships—where expectations were unclear or tasks were loosely defined—reported significantly lower satisfaction (between 55–60%). These internships were often described as confusing, disorganized, and lacking direction.

Interpretation

This finding suggests that structure functions as a **foundational condition for effective experiential learning**. It reduces ambiguity, aligns expectations, and enables interns to understand their role within the organisation. Without structure, even technically rich environments may fail to deliver meaningful learning experiences.

4.3 Mentorship and Learning Outcomes

The data also indicates a strong positive association between **mentorship quality and perceived learning outcomes**. Respondents who reported having access to consistent mentorship—defined as regular interaction with a supervisor or mentor—demonstrated significantly higher levels of:

- Confidence in their skills
- Perceived learning gains

- Overall satisfaction (between 85–90%).

Conversely, respondents who lacked mentorship reported difficulty navigating tasks, slower learning progress, and reduced motivation.

Interpretation

Mentorship appears to function as a **critical enabling mechanism**, bridging the gap between task execution and skill acquisition. It transforms internships from passive work experiences into guided learning environments. This reinforces the idea that internships require **human support systems**, not just task assignments.

4.4 Task Type and Engagement Levels

Another key variable examined in the survey was the **type of tasks assigned to interns**. A clear distinction emerged between internships involving:

- **Real-world, project-based tasks**
- **Administrative or repetitive tasks**

Interns engaged in real-world projects reported significantly higher engagement levels, motivation, and perceived value of the internship experience. (between 80–90%).These tasks included working with real datasets, participating in cybersecurity assessments, contributing to software development, or supporting AI-related projects.

In contrast, interns assigned primarily administrative tasks reported lower engagement and perceived their experience as less relevant to their career development.

Interpretation

Task relevance directly influences **intrinsic motivation and learning effectiveness**. Real-world tasks provide contextualized learning, enabling interns to understand how their work contributes to organisational goals. This aligns with experiential learning theory, where knowledge is constructed through meaningful engagement.

4.5 Combined Effects: Interaction Between Variables

The data suggests that internship success is not determined by a single variable, but rather by the **interaction between structure, mentorship, and task relevance**.

The highest satisfaction levels were observed in internships that combined:

- Clear structure
- Active mentorship
- Real-world tasks

Internships lacking one or more of these components showed progressively weaker outcomes.

Interpretation

This indicates a **multi-dimensional model of internship quality**, where each component reinforces the others. Removing one element weakens the overall effectiveness of the experience.

5. Qualitative Findings

5.1 Overview of Interview Data

The qualitative component of the study included **37 semi-structured interviews**, providing in-depth insights into the experiences and perceptions of different stakeholder groups. This approach allowed the research to capture not only what happens in internships, but also **why and how these experiences are shaped**.

5.2 Intern Experiences and Perceptions

Interns consistently emphasized the importance of **meaningful engagement and guidance**. Many described internships as valuable opportunities to apply theoretical knowledge, but also highlighted significant variability in quality.

Key Themes Identified:

- Desire for hands-on, practical experience
- Need for clear expectations and guidance
- Importance of feedback and mentorship

Reported Challenges:

- Unclear roles and responsibilities
- Lack of onboarding and orientation
- Limited interaction with supervisors

Interpretation

Interns view internships primarily as **learning environments**, not just work experiences. When these expectations are not met, dissatisfaction increases. This highlights the need to align internship design with **learning objectives**, not only organisational needs.

5.3 SME Perspectives

SMEs generally recognized the value of internships, particularly as a means of identifying potential future employees. However, their ability to deliver high-quality internships was often constrained by operational limitations.

Key Themes:

- Internships as recruitment pipelines
- Appreciation of interns' fresh perspectives
- Interest in structured frameworks

Reported Challenges:

- Limited time for supervision
- Lack of standardized processes
- Difficulty balancing productivity and training

🔍 Interpretation

SMEs operate under **resource constraints**, which limit their ability to design structured internship programs. This suggests that providing **simple, practical frameworks and tools** can significantly improve implementation.

5.4 HR and Recruitment Insights

HR professionals provided a strategic perspective, emphasizing the role of internships in workforce development.

Key Observations:

- Internships are underutilized as recruitment tools
- Many candidates lack practical experience
- Structured programs improve hiring outcomes

Interpretation

From an HR perspective, internships should be integrated into **long-term talent strategies**. However, this requires moving beyond informal practices toward **systematic and measurable approaches**.

5.5 Stakeholder and System-Level Insights

Stakeholders highlighted broader systemic issues affecting internship quality:

- Lack of common standards
- Weak alignment between education and industry
- Limited policy-level guidance

Interpretation

These findings indicate that improving internship quality is not only an organisational issue but also a **system-level challenge**, requiring coordination between education providers, employers, and policymakers.

5.6 Synthesis of Qualitative Insights

Across all stakeholder groups, a consistent pattern emerges:

- Interns seek **learning and development**
- SMEs seek **practical solutions and efficiency**
- HR seeks **structured talent pipelines**
- Stakeholders seek **system-level improvement**

Final Interpretation

High-quality internships must balance these different expectations. The most effective models are those that **integrate learning, productivity, and strategic workforce development**.

6. Cross-Analysis of Findings

The cross-analysis reveals clear patterns:

Optimal Model

✓ Structure + Mentorship → Highest success

Partial Models

- Structure without mentorship → moderate outcomes
- Mentorship without structure → inconsistent outcomes

Weak Model

✗ No structure + no mentorship → lowest performance

Interpretation

Internship effectiveness is **multidimensional**. No single factor is sufficient—success depends on the interaction of multiple elements.

7. Skill Gap Analysis

The study identified three major categories of skill gaps:

Technical Skills

- Limited practical application
- Insufficient exposure to industry tools

Soft Skills

- Communication
- Teamwork
- Adaptability

Business Understanding

- Lack of industry context
- Limited understanding of workflows

Interpretation

Internships must go beyond technical training and support **holistic skill development**.

8. Key Success Factors

The analysis identifies five core success drivers:

1. Structured internship design
2. Strong mentorship
3. Real-world task engagement
4. Continuous feedback
5. Clear communication

9. Key Challenges

For SMEs

- Limited HR capacity

- Lack of frameworks
- Time constraints

For Interns

- Unclear expectations
- Lack of guidance
- Low-value tasks

10. Implications

For SMEs

Internships should be treated as **strategic investments**, not temporary labour solutions.

For Educators

There is a need to align curricula with real-world industry practices.

For Policymakers

Policies should support:

- Standardization
- SME capacity building
- Internship quality frameworks

11. Recommendations

- Develop structured internship programs
- Assign dedicated mentors
- Provide meaningful tasks
- Implement evaluation systems
- Align internships with career pathways

12. Conclusion

This study provides clear evidence that the quality of internships in IT sectors is determined by structure, mentorship, and meaningful task engagement. Internships that are well-designed—featuring clear objectives, defined roles, and regular feedback—consistently lead to higher satisfaction, stronger skill development, and improved employability outcomes. In

contrast, unstructured internships with limited supervision and low-value tasks result in weaker learning experiences and reduced impact.

A key finding is the central role of mentorship, which significantly enhances learning by guiding interns, supporting skill development, and increasing confidence. Similarly, real-world project involvement is essential for ensuring relevance and motivation, enabling interns to apply their knowledge in practical contexts.

For SMEs, internships represent a valuable opportunity to build talent pipelines and support innovation, but their effectiveness depends on adopting simple, structured approaches. Even with limited resources, SMEs can improve outcomes by implementing basic frameworks, assigning mentors, and introducing evaluation mechanisms.

At the policy level, the findings highlight the need for standardized internship quality frameworks, stronger alignment between education and industry, and targeted support for SME capacity-building. Internships should be recognized as a strategic component of workforce development, particularly in addressing skills gaps in the digital economy.

In conclusion, improving internship quality requires coordinated action across stakeholders. When properly designed and supported, internships can serve as powerful tools for enhancing employability, strengthening SMEs, and supporting sustainable economic growth.

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