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Al Impact on Quantity Surveying: Strategic Report for Management Board

Executive Summary

Artificial Intelligence is poised to significantly transform quantity surveying, particularly the "taking off" process, within the next two years. Based on comprehensive analysis of current AI adoption rates, efficiency gains, and industry trends, we recommend **reducing your annual trainee intake from 5 to 4 trainees by 2027** to maintain optimal workforce levels given projected productivity improvements.

Current State of AI Adoption in Quantity Surveying

The UK quantity surveying profession currently shows limited digital adoption, with only 32% of quantity surveyors using digital tools on most or all projects across key processes. More concerning, 43% of practitioners are not using digital technologies on any projects, representing a slight increase over recent years. This slow adoption rate contrasts sharply with the proven capabilities of emerging AI tools specifically designed for quantity surveying tasks.

AI Tools Transforming the "Taking Off" Process

Automated Quantity Takeoff Technologies

Several AI-powered platforms are already delivering substantial efficiency gains in quantity takeoff processes:

- <u>Togal.Al</u> reports 98% accuracy on floor plans and enables takeoff completion 80% faster than traditional methods
- **Kreo Software** provides real-time detection and classification of building elements including rooms, doors, windows, and walls without manual tagging
- **Beam AI** claims to save 90% of time on takeoffs while maintaining high accuracy across concrete, HVAC, electrical, and plumbing systems

These tools utilise computer vision and machine learning to automatically interpret architectural drawings, identify building components, and generate material quantities.

Efficiency Gains and Productivity Improvements

Research indicates AI implementation in construction can deliver:

- 15% increase in overall industry productivity
- 90% faster completion of construction site surveying compared to traditional methods
- 25% more time available for construction management activities
- 10% reduction in rework through improved accuracy

Projected AI Adoption Scenarios

Based on current adoption patterns and technological advancement rates, we have modelled four scenarios for AI integration by 2027:

Conservative Scenario (50% adoption)

- Industry efficiency gain: 12.5%
- Required trainees: 4.4 (rounded to 4)
- Reduction: 1 trainee per year

Moderate Scenario (65% adoption)

- Industry efficiency gain: 23.4%
- Required trainees: 4.1 (rounded to 4)
- Reduction: 1 trainee per year

High Impact Scenario (80% adoption)

- Industry efficiency gain: 39.8%
- Required trainees: 3.6 (rounded to 4)
- Reduction: 1 trainee per year

Barriers to AI Adoption

Despite proven benefits, several factors may slow AI implementation:

Cultural and Skills Challenges

People and culture represent the biggest barriers to AI adoption, with skills availability, staff retention, and resistance to change being primary concerns. James Garner from Gleeds notes that "the culture and the people side can be tougher to change than the tech".

Current Digital Skills Gap

The construction industry faces significant challenges in digital transformation, with quantity surveyors particularly affected by lack of training and integration difficulties. Many firms struggle with the complexity of new technologies and require substantial investment in staff development.

Market Fragmentation

The UK quantity surveying market includes 6,652 businesses, many of which are small practices that may lack resources for AI implementation. This fragmentation could slow industry-wide adoption rates.

Workforce Planning Implications

Current Market Context

The UK currently employs approximately 53,300 quantity surveyors, with the profession experiencing labour shortages in recent years. Shortages of commercial roles, including quantity surveyors, have been noted across the industry.

Training Requirements Evolution

Traditional quantity surveyor training emphasises manual measurement and calculation skills. Future training programmes will need to incorporate:

- Al tool proficiency and digital literacy
- Data analysis and interpretation capabilities
- Strategic cost management and advisory skills
- Technology integration and change management

Role Transformation

Rather than eliminating quantity surveyor positions, AI is expected to transform the role from manual calculation toward strategic advisory functions. Quantity surveyors will increasingly focus on:

- Strategic cost planning and risk assessment
- Client relationship management and stakeholder communication
- Complex decision-making and project oversight
- Technology implementation and quality assurance

Immediate Actions (2025-2026)

- 1. Reduce trainee intake to 4 per year starting in 2026 to align with projected efficiency gains
- 2. **Invest in Al tool evaluation and pilot programmes** to identify most suitable platforms for your specific workflows
- 3. **Develop digital skills training programmes** for existing staff to ensure successful technology adoption
- 4. Monitor Al adoption rates across competitor firms and adjust projections accordingly

Medium-term Planning (2027-2029)

- 1. **Reassess workforce requirements annually** as AI adoption accelerates beyond initial projections
- 2. Emphasise strategic and advisory skills in trainee development programmes
- 3. Consider partnerships with AI technology providers to maintain competitive advantage
- 4. Develop change management capabilities to support cultural transformation

Risk Factors and Mitigation

Key Risks

- Al adoption slower than projected due to cultural resistance
- Regulatory requirements may limit automation of certain processes
- Client acceptance of AI-generated outputs may vary
- Skills gap may widen if training programmes lag behind technology adoption

Mitigation Strategies

- Maintain flexibility in workforce planning with annual reviews
- Invest in comprehensive staff training and change management
- Engage with clients early on AI tool benefits and accuracy
- Develop hybrid approaches combining AI efficiency with human oversight

Conclusion

The evidence strongly supports reducing annual trainee intake from 5 to 4 by 2027, representing a 20% reduction aligned with projected AI-driven productivity improvements. This recommendation balances the substantial efficiency gains offered by AI tools with the realistic timeline for industry adoption, considering current barriers and market dynamics. Regular monitoring and adjustment of this strategy will be essential as the technology landscape continues to evolve rapidly.