

**TITLE: USER'S EXPECTATIONS AND PERCEIVED BENEFITS REALISATION  
OF PICTURE ARCHIVING AND COMMUNICATION SYSTEM (PACS)**

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**ABSTRACT:**

A national project NIMIS is installing integrated digital imaging solutions into around 35 Irish hospitals and will provide a patient data flow between these systems and existing installations. This integrated PACS/RIS has been implemented in the researcher's hospital since August 2011.

The practical deliveries of PACS benefits in the literature are inconclusive. Since the system users are good indicators for the evaluation, the researcher recruited medical professionals at consultant and SPR/registrar level to examine user's expectations and realisation of PACS benefits.

The researcher conducted an extensive literature review to identify PACS benefits and formulated a questionnaire. Out of total 287 questionnaires, 115 participants sent back the completed questionnaires with the overall response rate of 40%. All data was entered and analysed using the Microsoft excel and SPSS. The Wilcoxon Signed Rank Test used to determine the statistical significance of each respective benefit item.

The researcher noted high user's benefit expectations before implementation of PACS. Although all benefit expectations level scores were higher than benefit realised, the benefits which were not achieved and statistically significant include: *'saves staff time', 'increases clinical efficiency', 'less time finding images/reports', 'user-friendly', 'reliable', 'increased confidence in patient diagnosis', and 'cost efficient'*. The participants especially the clinicians expressed much dissatisfaction with PACS.

Based on the study results, the researcher considers that PACS hasn't completely revolutionised the clinical practice and doubts the justification of money spent. However, the researcher believes that PACS has a potential to revolutionise and users will realise those benefits in the near future. In order, the researcher recommends the project team to evaluate the system regularly, resolve the issues identified, and provide support and user training for successful benefit realisation. Also, the study recommends assessing the user's benefit expectations before implementing PACS in other Irish hospitals.