

## The Role of Acoustical Design within Architectural Design in the Early Design Phase

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**Abstract :** This research responded to anecdotal evidence that suggested inefficiencies within the Architect and Acoustician relationship may lead to ineffective acoustic design decisions. The acoustician spoken to believed that he was approached too late in the design phase. The approached architect valued acoustical qualities, yet, struggled to interpret common measurement parameters. The preliminary investigation of these opinions indicated a gap in the current New Zealand Architectural discourse and currently informs the creation of a 2016 Master of Architecture (Prof) thesis research. Little meaningful information about acoustic intervention in the early design phase could be found from past literature. In the information that was sourced, authors focus on software as an incorporation tool without investigating why the flaws in the relationship originally exist. To further explore this relationship, a survey was designed. It underwent three phases to ensure its consistency, and was delivered to a group of 51 acousticians from one international Acoustics company. The results were then separated between New Zealand and off-shore to identify trends. The survey results suggest that 75% of acousticians meet the architect less than 5 times per project. Instead of regular contact, a mediated method is adopted through a mix of telecommunication and written reports. Acousticians tend to be introduced later into New Zealand building project than the corresponding off-shore building. This delay corresponds to an increase in remedial action for each of the building types in the survey except Auditoria and Office Buildings. 31 participants have had their specifications challenged by an architect. Furthermore, 71% of the acousticians believe that architects do not have the knowledge to understand why the acoustic specifications are in place. The issues raised in this investigation align to the colloquial evidence expressed by the two consultants. It identifies a larger gap in the industry where acoustics is remedially treated rather than identified as a possible design driver. Further research through design is suggested to understand the role of acoustics within architectural design and potential tools for its inclusion during, not after, the design process.

**Keywords :** architectural acoustics, early-design, interdisciplinary communication, remedial response

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