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## APPLICATION OF NATURAL LANGUAGE PROCESSING TO ESTABLISH THE DETERMINANTS OF USER SATISFACTION FROM PRIMARY CARE SERVICES

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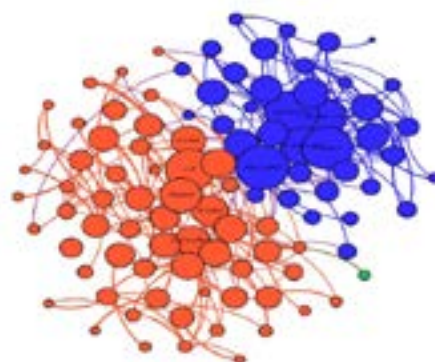
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**Statement of the Problem:** Research on user satisfaction has increased substantially in recent years. However, the relative importance and relationships between different determinants of satisfaction remains uncertain. Moreover, quantitative studies to date tend to test for significance of pre-determined factors thought to have an influence with no scalable means to identify other causes of user satisfaction. The gaps in knowledge make it difficult to use available knowledge on user preference for public service improvement. Meanwhile, digital technology development has enabled new methods to collect user feedback, for example through online forums where users can comment freely on their experience. New tools are needed to analyse large volumes of user feedback.

**Methodology & Theoretical Orientation:** Use of topic models is proposed as a feasible solution to aggregate open-ended user opinions for public sector institutions. Generated insights can contribute to a more inclusive decision-making process in public service provision. The approach is applied to a case of service reviews of publicly-funded primary care practices in England.

**Findings:** Findings from analysis of 145,000 reviews covering almost 7,700 primary care centres in England indicate that the quality of interactions with staff and bureaucratic exigencies are the key issues driving user satisfaction.

**Conclusion & Significance:** The proposed modelling approach is the first attempt (as far as author understands) at creation of a real-time evaluation tool for effects of public policy on experience of users of public services. Use of tools like this can enable greater inclusion of public voice in reform decisions about healthcare and other public services, with effect in higher public trust in those services, as well as higher job satisfaction and lower stress levels for public sector workers.



### References

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# Family Medicine & Primary Care

## Biography

Radoslaw Kowalski is a PhD candidate from University College London who explores how free-text user reviews can be used as a cheaper, real-time alternative to user surveys. He explores new and abundant sources of data for improving management practices in public sector organisations, including healthcare services. Quantitative summarization of text reviews about public services enables exploration of what matters to service users without prior assumptions. At present, reliance on deductive learning (coming up with hypotheses and then testing them, e.g. with user surveys) may lead to creation of inaccurate understandings of what makes users happy with public services. With inaccurate insights, public decision-makers may make biased and misplaced decisions about how to improve public services, especially if they rely on deductive learning over longer periods of time.

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