

Institutional factors affecting source use: A study of the source choice behavior of medical residents

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Introduction and Motivation: An important question in information-seeking behavior is how people decide on which information source to use when they need information. Some past studies reported that seekers use the source that is most easily accessible, while others found that people go for the source with the highest quality. Addressing these conflicting findings using contextual variables, a survey study of 352 working professionals (Agarwal, Xu and Poo, 2011) found that quality (benefit) was the important factor in the use of a source. Accessibility (cost) was perceived by the seeker to be unimportant but was found important. While this study looked at knowledge workers from the Finance/IT fields, not much is known about the effect of contextual factors on the source-choice behavior of medical residents, though there have been studies on the information behavior of healthcare providers in hospital settings (see Case 2007, pp.265-272 for a review). This becomes especially pertinent in light of the varying degree of legitimacy accorded to digital sources, and the use of new channels of access such as mobiles and tablets.

Objective and Research Questions: Using the institutional theory (see e.g. Scott, 2004; Appari, Johnson and Anthony, 2009), this study will carry out a survey of medical residents in one or more Boston hospitals to ascertain: 1) What are the conditions that make people switch from interpersonal sources (e.g. colleagues) to physical sources (e.g. books/manuals) to professional digital sources (e.g. a database such as UpToDate) to other digital sources such as Google or Wikipedia? 2) Does the degree of institutional legitimacy accorded to a source moderate its use? 3) Does the choice of channel (e.g. face-to-face, computer or mobile/tablet) moderate source use?

Variables and Research Model:

The research model shows the independent and dependent variables, as well as the moderators derived from institutional theory, and choice of access channel e.g. mobile. Control variables will be age and degree of IT savviness of the resident and the change in scope of task.

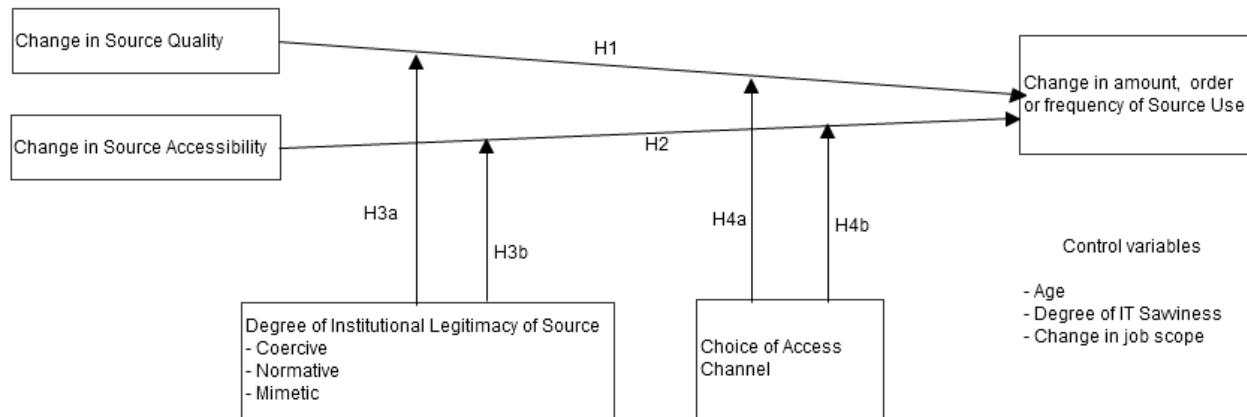


Figure 1 Research Model

Methodology

As the constructs in our model deal with perceived attributes, a questionnaire survey will be conducted to test our hypotheses. The target population is medical residents. The study population is the medical residents engaged in a residency programs in one or more hospital(s) in Boston. The survey will be sent out to the medical residents after IRB approval.

Instrument development

Whenever available, the measurement items for the study were adopted from prior literature, else new items were developed. The questionnaire uses a seven-point Likert scale (1=strongly disagree, 7=strongly agree).

We will first validate the construct validity of the instrument. This will follow three steps: First, experienced researchers in the field will be consulted to discuss the wording of each item. The instrument will be revised based on feedback. Second, we will adopt a two-stage item-sorting procedure (See Agarwal, 2011). Finally, a pre-test will be conducted to fine-tune the instrument.

The next stage will be to conduct a pilot study to further validate the instrument. The pilot test will be administered on a small sample of the medical residents, and the instrument revised, if necessary. To validate the convergent and discriminant validity of the instrument, psychometric analysis will be performed as per the procedure recommended by Anderson and Gerbing (1988). Exploratory Factor Analysis (EFA) with varimax rotation will be performed on the pilot

data using SPSS. The rotated component matrices for the pilot data set will be reported and analyzed to see if the survey items load correctly as per the respective constructs.

Data Collection and Analysis

For the main data collection, the survey will be sent out to medical residents. An incentive will be built in to participate in the study.

Descriptive statistics will be recorded. To measure the reliability of the measurement items, Cronbach's alpha will be reported. Measurement model testing will be done using LISREL to ensure high construct convergent and discriminant validities. A confirmatory analysis will be conducted for the data collected from the main study. Discriminant validity will be checked based on a construct correlation table.

Finally, we will carry out the hypothesis testing using stepwise Linear Regression and Hierarchical Linear Modeling.

Significance of the study: Insights gained from the study will build on past work on information behavior and source choice, as well as the application of institutional theory to hospital settings, and help hospitals make optimal provision of information source types based on their preference and usage by medical residents. Ongoing and future work will involve finalizing the questionnaire and carrying out the study.

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