

## **Application of Grounded Theory Methodology in Library and Information Science Research: An Overview**

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### **Abstract**

Grounded Theory (GT) methodology has emerged as a valuable approach in qualitative and mixed-method research, particularly in contexts where there is limited existing literature or where a nuanced understanding of a phenomenon is needed through extensive exploration. Similarly, GT has found applications in research within the field of Library and Information Science (LIS). This conceptual paper aims to introduce grounded theory methodology (GTM) to library professionals and to explore how GT functions as an exploratory and inductive research method within the field of Library and Information Science (LIS). It provides an overview of GT, tracing its evolution and discussing different versions of the methodology. Drawing upon examples from existing literature, this paper showcases how GT can be used as an effective approach in LIS research. Furthermore, this paper examines the challenges associated with employing GT, particularly for novice researchers. By shedding light on both the strengths and limitations of GT, this paper aims to equip library professionals with a deeper understanding of this methodology and its potential for advancing research in the LIS field.

**Keywords:** Research methods, Grounded Theory, Libraries, LIS research

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## **Introduction**

Grounded theory (GT) is a qualitative research method that focuses on the systematic generation of a substantive theory from data (Muhamayuddin et al., 2016; Ruppel & Mey, 2017). When mixed methods and grounded theory are combined, researchers use both qualitative and quantitative data (Gutterman et al., 2019; Leedy & Ormrod, 2019). Quantitative data are utilized to supplement and enhance the understanding of the studied phenomenon.

In GTM, data analysis begins almost immediately, with the researcher establishing categories to organize data and formulate theory. Participants are carefully selected to represent specific attributes or experiences relevant to theory development. Subsequent data collection aims to saturate these categories, exploring them deeply, and identifying any deviant cases that might prompt adjustments to categories or their interrelationships. The resulting theory is rich in concepts and their connections, exhibiting conceptual density (Leedy & Ormrod, 2019; Mason, 2002, Smith, 2015; Smith et al., 2020). Birks & Mills (2015), as cited in Biaggi & Wa-Mbaleka (2018), stated that grounded theory has become the most widely used qualitative research design in the world over the last 50 years since its inception. Despite its widespread use, grounded theory has not been adequately employed to study certain phenomena in Sri Lanka particularly in the LIS field.

Moreover, the flexibility and adaptability inherent in GTM offer practical advantages in navigating dynamic research contexts. This approach allows for iterative data collection and analysis, enabling researchers to adjust methods in response to emerging insights and evolving research questions. Furthermore, the emphasis on contextual relevance and theory building within grounded theory aligns well with the goals of qualitative research, particularly in capturing the nuances of human experiences and interactions.

The term ‘grounded’ indicates that the theory developed in the study originates directly from data collected in the field, rather than being derived from or influenced by existing research literature (Hickey, 1997; Leedy & Ormrod, 2019). As Charmaz (2006, 2014) stated GT is rooted in a constructivist paradigm, emphasizing the importance of understanding social phenomena from the perspective of those being studied. It involves inductive reasoning, allowing a substantive theory to emerge from the data rather than being imposed beforehand. Mixed methods research is often guided by a pragmatic philosophy, seeking to use the strengths of both qualitative and quantitative methods to answer research questions more comprehensively (Creswell, 2009; Walsh, 2015).

### **History of Grounded Theory/How Grounded Theory is evolved?**

Grounded Theory (GT) was developed by two American researchers, Barney Glaser (2002) and Anselm Strauss, in 1967 (Mason, 2002). Since its inception, various versions of GT and adaptations in methodological approaches have been debated. In 1990, Anselm Strauss and Juliet Corbin introduced the Straussian version of GT (Corbin & Strauss, 2008), which implemented three stages of coding procedures: open coding, axial coding, and selective coding (Corbin & Strauss, 2008, 2014; Muhaiyuddin et al., 2016). The Straussian version is characterized by its organized structure and provides firmer coding techniques for data analysis, emphasizing the reliability and validity of data through three types of coding techniques (Corbin & Strauss, 2008, 2014).

Qualitative researchers do not base their research on pre-arranged hypotheses. However, they typically identify a problem or subject they aim to investigate. Qualitative research offers a flexible approach by utilizing multiple sources to confirm results (Muhaiyuddin et al., 2016). According to Bryman (2008), the qualitative approach is the most suitable method of research for understanding

the experiences of human subjects. As Corbin (2016) stated, GT research resonates with researchers as it allows them to engage with people, listen to their life experiences, and use that knowledge to make a difference in their lives. Elliott and Lazenbatt (2005) explained that grounded theory, rooted in sociological theory, aims to comprehend and explain human behaviour by employing inductive reasoning methods.

Therefore, the researcher does not start with a hypothesis or theory to prove or disprove it; rather, the researcher begins by collecting data in the setting, concurrently analyzing it, and then generating a hypothesis (Strauss & Corbin, 1990). GT is most often associated with the production of a substantive theory, rather than a formal theory. The substantive theory relates to a specific situation, while a formal theory is more abstract and may relate to a variety of situations (Harris, 2015).

GT differs from other qualitative approaches in three basic tenets: theory generation, an emergent theory grounded in empirical research with an emphasis on fieldwork or practical real-world research, and concurrent systematic collection and analysis of data using theoretical sampling and constant comparative analysis (Harris, 2015). GT requires simultaneous and systematic data collection and analysis, whereas other qualitative approaches are based on collecting large amounts of data and then analyzing it. In GT, concepts and theory emerge through a process of constantly comparing the data, generating questions to explain behaviour, and testing these with further data collection (Carey, 2010; Kolb, 2012). GT allows a new theory to emerge without preconceived ideas guiding the research process, making it a dominant data analytical approach (Harris, 2015; Timmermans & Tavory, 2012). GTM is employed in the areas that have not been previously investigated or where existing research has major omissions. GT fits well with the study's

interpretivist epistemological perspective (Harris, 2015; Mason, 2002). The data collection and analysis process in GT continues until theoretical saturation is achieved, meaning no newer categories are identified. The early stages of GT require wide openness and a high level of flexibility to identify a large number of descriptive categories. The key components of the grounded theory process include gathering data, coding, memo-writing, theoretical sampling, saturation, sorting, and contributing to the construction of a substantive theory. The GT research process is time-consuming until theoretical saturation is reached and a theory is developed. GT lets a new theory emerge with no preconceived ideas about what is happening to guide the research process (Harris, 2015; Timmermans & Tavory, 2012).

According to Dunne (2011), the difference between the Classical and Straussian versions lies in the application of existing literature review in the practical research process. Glaser (2002) opposed utilizing a literature review due to concerns that it might influence the emergence of theory from data. Consequently, the Classical version suggested that grounded theorists should refrain from engaging with existing literature. However, several studies by scholars have argued that the use of literature helps researchers, particularly novice researchers, to understand if similar studies have been conducted previously, serving as a reference to refine research questions and methodological fundamentals (Dunne, 2011; Kenny & Fourie, 2015; Muhaiyuddin et al., 2016). Dunne (2011), having reviewed the literature on the original stance taken by the founders of GTM regarding literature review, tracked how this position has changed over time.

Based on Strauss and Corbin's (1990) book titled *Basics of Qualitative Research: Grounded Theory Procedures and Techniques*, the Straussian version of grounded theory does not oppose literature reviews while

introducing coding procedures and phases, namely open coding, axial coding, and selective coding. In the Straussian version, principles and guidelines for researchers are thoroughly provided, leading to a more organized approach and firmer coding techniques for data analysis (Kenny & Fourie, 2015; Muhamyuddin et al., 2016). These procedures also emphasize the reliability and validity of data, which can be demonstrated through three types of coding techniques. Hence, the decision to utilize the Straussian version was deemed correct (Dunne, 2011; Kenny & Fourie, 2015; Muhamyuddin et al., 2016).

### **Sampling and Methods of Data Collection**

Data collection in grounded theory studies is characterized by being conducted in the field, adaptable, and prone to change over the course of the investigation. While interviews commonly serve as a primary method, various other sources such as focus group discussions, observations, documents, historical records, videotapes, and any relevant materials may also be employed. The essential requirement is that the collected data encompass the viewpoints and voices of the individuals under study (Corbin & Strauss, 2008, 2014; Leedy & Ormrod, 2019).

GT relies on the collection of rich, unstructured data through methods such as focus group discussions, in-depth interviews, life histories, and observations. The goal is to gather qualitative data that can be coded and analyzed to identify patterns and themes, ultimately leading to the emergence of a substantive theory from these qualitative data (Corbin & Strauss, 2008, 2014; Harris, 2015; Mason, 2002). Open-ended questions could be asked to yield powerful information for gaining an understanding of the problem under study. The interview guide has to be prepared prior to visits and can be moderated during the initial visits to make necessary changes. In mixed methods-grounded theory research, quantitative data can also be collected through surveys,

experiments, or other structured methods. Quantitative data such as annual statistics and performance reports can also be used to gain further understanding of the phenomenon under study (Leedy & Ormrod, 2019).

## **Coding Procedures**

Coding represents the foundational and essential process within grounded theory. It involves categorizing data at various levels of granularity, including line-by-line, sentence-by-sentence, paragraph-by-paragraph, page-by-page, section-by-section, and other similar approaches (Corbin & Strauss, 2008, 2014; Harris, 2015; Mason, 2002). (Line-by-line analysis ensures that the analysis is authentically grounded, ensuring that higher-level categories and subsequent theoretical formulations emerge organically from the data rather than being imposed upon it. The data collected undergo initial open coding, establishing tentative connections between categories, and then further data collection is conducted as GTM necessitates constant data collection and analysis until theoretical saturation is achieved (Corbin & Strauss, 2008, 2014).

## **Theoretical Saturation in GTM**

In Grounded Theory, theoretical saturation refers to the stage at which the researcher concludes data collection, signifying that no additional concepts or explanations emerge, and the theory comprehensively elucidates the explored concept (Harris, 2015). Consequently, in GT studies, no fixed schedule is needed to decide on the number and type of participants or the use of interview and observation guides (Harris, 2015). Researchers identify theoretical saturation when they begin to have confirmation of all the elements of their analysis to date, with no new concepts or ideas emerging.

Maintaining a written record of theory development named as memoing throughout the data collection and analysis process is crucial. This involves

defining categories, justifying chosen labels, tracing emergent relationships, and documenting the integration of higher- and lower-level categories. Memos document changes in the analytical process, emerging perspectives, and reflections on the adequacy of the research question. Thus, memos offer insights into both the research process and the substantive findings of the study.

### **Conceptualization and Theory Building**

Conceptualization is a necessary step in grounded theory, as in any research study (Glaser, 2002). However, unlike phenomenology or narrative research, conceptualization in grounded theory cannot be completed until after data collection (Glaser, 2002; Strauss & Corbin, 1990). This characteristic of GTM emphasizes that theory emerges from the data, in contrast to other research methods where theory typically precedes data collection. Therefore, conceptualization in grounded theory research occurs later in the research process (Strauss & Corbin, 1990).

Conceptualization in GT research occurs in the latter part of the research process, unlike other research methods. NVivo is qualitative data analysis software that aids in organizing large amounts of qualitative data (Mason, 2002). NVivo facilitates full-text review, initial note-taking, code creation, grouping codes into concepts, and eventually into categories as repeated ideas, concepts, or elements become clearer (Bryman, 2008). Transcribed data, translated in to English is needed when using NVivo analytical software. While software can assist in organizing and managing data, it is the researcher's expertise, insight, and understanding of the research context that drive the development of these key elements.

## **Analysis Process**

This section explains the analysis process, encompassing coding, categorization, and theorization rooted in the collected data. It elucidates how themes, categories, the core category, and the substantive theory emerge from the data through an inductive approach.

During the open coding stage, the initial examination of raw qualitative data, such as interview transcripts or observational notes, involved engaging in line-by-line analysis to identify and label concepts, themes, or patterns within the data. Codes were generated inductively, without preconceived notions, allowing for a flexible exploration of the data, aiming to create a comprehensive set of initial codes capturing the range of ideas and phenomena present. Memo writing served as an ongoing activity, building intellectual assets, fostering analytic momentum, and informing grounded theory findings. During open coding, a basic coding framework is developed.

During the next stage, attention is paid to drawing connections between codes, with a focus on identifying the most important and central codes from open coding. These central codes are then elevated to the status of categories. This process involves reading over the codes and their underlying data to determine how they can be grouped and abstracted into categories. Some redundant codes may be merged and renamed during the second stage of coding to further organize the coding framework. The process involves developing several higher-order codes named categories supported by a cleaned-up set of supporting codes. These categories serve as the ‘axes’ around which their supporting codes revolve. Overall, in this stage coding helps to clarify the relationships between concepts identified during initial coding and provides a more structured framework for analysis. During the final stage of analysis, where the researcher identifies the core category or central theme that best

explains the phenomenon under study. This stage involves selecting a central organizing concept that encompasses and integrates the other categories identified in the previous stages. The core category serves as the focal point for developing a substantive theory that explains the underlying processes or dynamics at play in the data. The researcher further refines and elaborates on the core category, exploring its properties, dimensions, and variations across different contexts. This final stage of coding involves synthesizing the findings from previous stages to construct a coherent and comprehensive theoretical framework that captures the essence of the phenomenon being studied. According to Strauss and Corbin (1990), the three stages of Straussian version of GTM are named as open, axial, and selective coding that guide the systematic analysis of qualitative data, leading to the development of a robust theoretical understanding grounded in empirical evidence.

### **Theoretical Sampling**

The process of theoretical sampling involves the researcher actively engaging in data collection, coding, and analysis to generate theory. This approach requires the researcher to make ongoing decisions about which data to collect next and where to find it, all while allowing the theory to develop organically. As the researcher explore data, guided by either substantive or formal theory, they adjust their data collection strategies accordingly. Unlike traditional approaches where data collection is planned in advance, theoretical sampling relies on the emergence of theory to dictate subsequent data collection efforts. Through the iterative process of identifying and saturating codes across comparison groups, the researcher determines both what categories and properties to explore further and where to seek additional data sources (Strauss & Corbin, 1990; 1998).

## **Theory Development**

Ultimately, the researcher interprets the findings in light of existing literature, theoretical frameworks, and the research context. They contribute to theory building by generating new insights, challenging existing theories, or proposing alternative explanations. Although analytical software such as NVivo can be utilized in organizing and managing data, it's the researcher's expertise, insight, and understanding of the research context that drive the development of the emergent theory. The role of a researcher in developing concepts, categories, the core category and ultimately the theory in qualitative research is crucial.

It is important to explore the details of each concept identified during the coding process, elucidating their significance and interrelationships. Moreover, it outlines the hierarchical structure of categories that emerged highlighting the central themes that encapsulate the essence of the phenomenon under investigation. Once the core category, representing the central phenomenon around which all other categories revolve, the researcher needs to thoroughly examine to elucidate its pivotal role in understanding the research findings. Finally, the researcher synthesizes the insights gained from the analysis to propose an emergent theory that offers a coherent explanation of the observed patterns and relationships within the data.

## **What is Grounded Theory?**

Grounded Theory Methodology (GTM) is a qualitative research approach that aims to generate theories grounded in data. Originally developed by sociologists Barney Glaser and Anselm Strauss in the 1960s, GTM has since evolved and diversified, finding applications in various fields, including Library and Information Sciences (LIS). This article aims to delve into the

evolution of GTM, its different versions, and its profound benefits in the LIS field, supported by examples of previous research (Corbin & Strauss, 2008).

GTM has evolved into a cornerstone qualitative research approach, valued for its systematic yet flexible approach to theory development. Originally formulated by sociologists Barney Glaser and Anselm Strauss in the 1960s, (Glaser & Strauss, 1967) GTM emerged as a response to the limitations of traditional positivist and deductive research paradigms (Glaser, 2002). At its core, GTM seeks to generate theories that are firmly grounded in empirical data, allowing for the exploration of complex phenomena without the constraints of preconceived hypotheses (Glaser, 2002; Strauss & Corbin, 1990; Corbin & Strauss, 2008, 2014). Since its inception, GTM has undergone significant evolution and diversification, leading to the development of multiple versions and adaptations (Glaser & Strauss, 1967). Glaser and Strauss (1967) initially introduced what is now known as Classic Grounded Theory (CGT), which emphasized the discovery of new concepts and theories directly from the data. This version of GTM propelled qualitative research into new realms, challenging the notion that theory development must precede data collection.

As qualitative research methodologies continued to evolve, researchers recognized the need to acknowledge the role of the researcher's interpretations and perspectives in shaping the research process. Charmaz (2014) further advanced GTM with her formulation of Constructivist Grounded Theory (CGT), which explicitly recognizes the constructivist nature of knowledge and the co-construction of meaning between researchers and participants. CGT embraces the notion that researchers inevitably bring their own biases, assumptions, and interpretations to the research process, and that these factors

play a crucial role in shaping the analysis and theory construction (Charmaz, 2006; 2014).

Moreover, GTM has been integrated into mixed-method research designs, offering a powerful tool for triangulating findings and enriching the depth of understanding. By combining qualitative GTM with quantitative methods, researchers can gain a more comprehensive perspective on complex phenomena, enriching their analyses with both numerical data and rich textual descriptions. This integration allows researchers to capitalize on the strengths of both qualitative and quantitative approaches, providing a more holistic understanding of the research topic.

GTM has evolved from its origins as a groundbreaking qualitative research methodology to become a versatile and widely-used approach in both pure qualitative research and mixed-method research designs. Its emphasis on empirical grounding, systematic analysis, and theory development continues to shape research practices across disciplines, including the dynamic field of Library and Information Sciences (LIS). In the following sections, I will explore the various versions of GTM, its benefits in the LIS field, and examples of its application in previous research.

### **Evolution of Grounded Theory Methodology:**

GTM emerged as a response to the limitations of existing qualitative research methods, such as positivism and symbolic interactionism, which often relied on predetermined theories or hypotheses (Strauss & Corbin, 1990). Glaser and Strauss (1967) sought to develop an approach that allowed theories to emerge from the data itself, rather than imposing preconceived ideas onto the research process.

Over time, GTM has undergone several iterations and adaptations, each with its own nuances and emphases. Classic Grounded Theory, as formulated by Glaser and Strauss (1967), emphasized the discovery of new concepts and theories from data without preconceived categories or theories. Charmaz (2014) later introduced Constructivist Grounded Theory, which acknowledges the role of the researcher's interpretations and perspectives in shaping the analysis and theory construction process. Additionally, Anselm Strauss further developed GTM through his work on Straussian Grounded Theory, which focuses on systematic procedures for theory development and validation.

### **Versions of Grounded Theory Methodology:**

#### **1. Classic Grounded Theory (CGT)**

In CGT, researchers engage in a process of constant comparison, wherein data are systematically compared to identify patterns, categories, and relationships. The goal is to generate a substantive theory that explains the underlying processes or mechanisms at play within a particular phenomenon (Glaser, 2002).

#### **2. Constructivist Version of Grounded Theory**

This version acknowledges the constructive role of the researcher in shaping the research process and interpretations of data. Researchers using this version actively engage in reflexivity, acknowledging their influence on the research and considering multiple perspectives in theory development (Bryant & Charmaz, 2007; Charmaz, 2006, 2014).

#### **3. Straussian Version of Grounded Theory**

Straussian version of GT, developed by Anselm Strauss, emphasizes the use of systematic procedures for data collection and analysis. This version often involves a more structured approach to coding and theorizing, with an emphasis on theoretical sampling and validation of emerging concepts (Strauss & Corbin, 1990).

## **How GT is employed in LIS Research**

Grover & Glazier (1986) as cited in Togia & Malliari (2017) stated that research in Library and Information Science (LIS) is frequently criticized for its fragmented nature, narrow focus, and inclination towards practical issues. However, as stated in the literature, Grounded Theory (GT) serves as a versatile research methodology applicable across various fields, including Library and Information Science (LIS). Glaser (2002) emphasizes its interdisciplinary utility, asserting that GT methods transcend disciplinary boundaries and data collection techniques. Powell (1999), in a seminal paper on methodologies in LIS research, advocates for the use of GT, noting the ongoing need for well-founded theories in the field. Mansourian (2006) stated that Allan (2003) lauds Grounded Theory (GT) as a potent tool for data collection and analysis, applicable not only in the social sciences but also in the hard sciences.

The history of GT in LIS dates back to the early 1980s, with seminal works in information seeking studies utilizing GT methods. Sheffield emerges as a notable center for GT within LIS, with pioneers such as Ellis (1987) and subsequent researchers contributing to its adoption. Ellis' early work in information-seeking behaviour studies marked a significant milestone in GT's integration into LIS research. The methodology's application expanded over time, with researchers like Beaulieu (2003) highlighting its efficacy in generating theories and models from empirical data in an article focusing on approaches to user-based studies in information seeking and retrieval: Sheffield perspective.

Ellis's (1993) article 'Modeling the Information-Seeking Patterns of Academic Researchers: A Grounded Theory Approach' explores the application of GTM to develop models of how academic researchers seek

information. The article provides background information on the emergence of qualitative approaches in information studies in the United Kingdom. Ellis (1993) outlined the results of four studies conducted at the University of Sheffield, focusing on understanding the information-seeking behaviours of researchers in various disciplines such as social sciences, sciences, and humanities. The article discusses methodological considerations inherent in employing GT, including issues related to analysis, comparison, validity, data recording, coding, and selection. Furthermore, reference is made to other studies at the University of Sheffield that have utilized GTM. Overall, Ellis's (1987, 1993) work highlights the utility of GT in exploring and modeling the complex information-seeking patterns of academic researchers across different disciplines.

Beyond Sheffield, GT gained traction globally, with researchers from different regions employing it in various studies. Notable examples include Mellon (1986) and Weingand (1993), whose work demonstrated GT's applicability beyond geographic boundaries. Moreover, GT found its place in numerous doctoral studies worldwide, showcasing its effectiveness in exploring diverse phenomena within LIS.

In their study titled "Personalized Service? Changing the Role of the Government Librarian," Taylor and Corrall (2007) explored the feasibility and implications of implementing a personalized information service within a government department. Employing a qualitative methodology, the research investigated stakeholder perspectives on various aspects of the service, including its scope, marketing strategies, resource allocation, and methods of evaluation. Through questionnaires, interviews, and surveys with both government librarians and potential users, the study uncovered insights into the demand for and perceptions of personalized information provision.

Analysis of the data using coding techniques revealed emerging theory, highlighting the importance of clarifying user requirements, managing workloads effectively, and strategically marketing tailored services.

In their article titled ‘Leading the Academic Library in Strategic Engagement with Stakeholders: A Constructivist Grounded Theory’, Harland et al. (2019) presented a constructivist grounded theory approach to address the challenges posed by the diverse and disparate needs of stakeholders in academic libraries. Their study emphasized the pivotal role of library directors in navigating this complexity and advocates for tailored strategic mechanisms for engaging with various stakeholder groups. The research contributes by establishing a strategic framework for stakeholder engagement and offers tentative recommendations suited to different types of university libraries. The findings emphasize the importance of outward-looking library leadership, an evidence-based approach to stakeholder engagement, and the fostering of a customer-focused organizational culture among library staff. Through their constructivist grounded theory, the authors provide insights that can guide library directors in effectively engaging with stakeholders and enhancing the impact and relevance of academic libraries in today's dynamic landscape.

In their study titled ‘Exploring Academic Librarians’ Engagement with Evidence-Based Practice’, Miller et al. (2017) explored the experiences of Australian academic librarians regarding evidence-based practice (EBP). Recognizing the importance of EBP in improving library services, the researchers employed a constructivist grounded theory approach to investigate how academic librarians engage with EBP. Thirteen academic librarians participated in semi-structured interviews, and the data was analyzed using constant comparison methods to develop codes and categories. From this analysis, a new theoretical model of experiencing EBP in the academic library

context emerges, comprising six categories of experiences: empowering, intuiting, affirming, connecting, noticing, and impacting. This model serves as a valuable tool for understanding the diverse mindsets and actions of academic librarians in relation to EBP, offering insights that can inform support and education initiatives for librarians and their educators.

In the article titled 'Exploring Grounded Theory Methodology in Library and Information Science Research', Wiorogórska (2012) as cited in Mansourian (2006) set out to examine the foundational principles and applications of grounded theory within the domain of library and information science (LIS). The study method involved analyzing key tenets of grounded theory, drawing insights from seminal works by Glaser (2002), Strauss (1990) and Charmaz (2006, 2014), who have significantly contributed to its development.

The investigation into the utilization of grounded theory in LIS research is based on a thorough review of Polish, English, and French literature from journal bibliographies, full-text databases, union catalogs, and digital repositories, focusing on publications from 2000 to 2011. By tracing references from these sources, earlier studies on the subject were also considered. The findings highlight the widespread acceptance and successful application of grounded theory as a qualitative research methodology in LIS, particularly in exploring various dimensions of information user behaviour, information resources, and services, both within Poland and internationally.

In their study titled 'Exploring the Participatory Library: A Grounded Theory Approach', Nguyen, Partridge, and Edwards (2012) discussed the concept of the 'participatory library' introduced by Lankes and Silverstein in 2006. They highlighted the need for contemporary library models, often referred to as Library 2.0, to not only focus on technical advancements but also prioritize

participation. However, they noted a lack of empirical research in this area. To bridge this gap, the researchers employed a grounded theory approach, conducting in-depth individual interviews with six librarians.

In the paper titled ‘Enhancing Grounded Theory Methodology in Information Systems Research’, Urquhart, Lehmann, and Myers (2010) addressed the growing interest in utilizing grounded theory within the field of information systems. Grounded theory, a qualitative research approach, aimed to systematically derive theory from data collected and analyzed during the research process. The authors proposed guidelines tailored specifically for grounded theory studies in information systems, focusing on conceptualization and theory scope within a framework for theorizing. Their objective was to enhance the quality and ambitions of grounded theory research in this domain, offering practical recommendations to researchers seeking to employ this methodology effectively.

In her work titled ‘Expanding the Methodological Toolbox in Information Literacy Research: Grounded Theory and Visual Research Methods’, Hicks (2018) addressed the evolving complexities of information environments in library and information science (LIS). She advocated for a reevaluation of how grounded theory methods are utilized within the field, particularly in conjunction with information literacy and visual research. This methodological exploration aimed to establish a research agenda for extending grounded theory within LIS, drawing upon recent theoretical and methodological advancements. By outlining the challenges and opportunities associated with this shift in focus, Hicks proposed enriching the methodological toolbox available to LIS researchers. She emphasized the ongoing importance of exploring grounded theory methods to foster deeper

insights into how individuals interact with information within dynamic and evolving contexts.

In their study titled 'Uncovering Opportunities for Information Literacy and Data Information Literacy: A Grounded Theory Approach', Maybee et al. (2015) focused on understanding the curricular goals of Purdue University's nutrition science and political science faculties regarding information and data literacy. Using GT techniques, the researchers analyzed course syllabi to reveal how faculty integrates this literacy into their teaching. This approach not only revealed how faculty addresses information and data literacy but also illuminated their connections to broader learning objectives such as professional identity development and research skills. By gaining a holistic understanding of faculty expectations, the study informed the design of information literacy and data information literacy services that align with curricular goals.

Mellon's (1986, 2015) study explored the phenomenon of library anxiety among students conducting research. Over a two-year period, personal writings from beginning composition courses were analyzed to emerge recurring themes related to students' emotions about using the library. The findings revealed that a significant portion of students, ranging from 75 to 85 percent, expressed feelings of fear when faced with library research. Three key concepts emerged from these narratives: a perceived inadequacy in their own library skills compared to others, a sense of shame associated with this inadequacy, and a reluctance to ask questions for fear of exposing their shortcomings. From these insights, Mellon (1986, 2015) developed a grounded theory of library anxiety.

In Jamali's (2018) study titled "Does Research Using Qualitative Methods (Grounded Theory, Ethnography, and Phenomenology) Have More Impact?" the impact of qualitative research methods in library and information science (LIS) is examined. Despite the growing use of qualitative methods like grounded theory, ethnography, and phenomenology in LIS, their impact remains uncertain. Jamali, (2018) analyzed articles published between 2003 and 2013, indexed in Web of Science under the category 'Information Science & Library Science'. This study included 299 articles utilizing qualitative methods. Comparisons were made between the citation rates and Mendeley readership of these qualitative articles and others published in the same journals and volumes. The findings indicated no statistically significant difference in citation rates between qualitative articles and others. However, qualitative articles generally had fewer Mendeley readers, with the difference being statistically significant. Given the increasing interest in qualitative methods, Jamali (2018) suggested that LIS schools should emphasize issues related to the rigour of qualitative research in their education programmes and editorial policies of LIS journals should consider highlighting qualitative research to enhance its impact in the field.

Lastly, the study by Ehsanian et al. (2022) aimed to determine the use of Internet of Things (IoT) technologies in selected libraries. Researchers used a custom-made checklist validated by experts, examining the websites of twenty libraries and reviewing relevant literature about IoT use. They also contacted relevant personnel in the target libraries to gather additional data, investigating the types of libraries, services provided by IoT technologies, and the tools used. The findings revealed that the libraries utilized various IoT technologies, including RFID, Bluebeam technology, smart cameras, smart public areas projects, Hui Wen library information service system, Montreal system, book

robots, smart robots, car-to-car communication, and the Capira mobile application. Bluebeam technology offered the widest range of services, while the Hui Wen library information service system, with its eight applications, was the leading system in IoT usage. The study concluded that the continued use of IoT in the studied libraries suggests that Iranian libraries should consider adopting this emerging technology to enhance their services.

This paper offers just a glimpse into the myriad ways in which researchers in LIS can utilize Grounded Theory (GT) in their investigations. GT's application extends beyond information-seeking research to encompass areas like information literacy, online learning, user experiences in library services particularly in digital libraries and faceted classification. Researchers have successfully utilized GT to explore topics ranging from web user experiences to organizational cultures within the LIS domain. However, despite its widespread adoption, employing GT presents challenges, particularly for novice researchers. Understanding and navigating these challenges is crucial for ensuring the effective implementation of GT in LIS research projects. The following sections explore the benefits as well as challenges and complexities encountered when applying GT in real-world research scenarios.

### **Limitations and Implications**

Due to the extensive use of GT globally, retrieving all such publications and making a comprehensive review of all LIS studies employing this method was not feasible. Nevertheless, the studies examined in this paper serve as a representative sample of the broader research in this area. The primary implication of this paper is to provide the research community with a comprehensive understanding of the applicability of GT in LIS research particularly in the context of Sri Lanka. Future researchers can leverage this

insight to grasp the essence of this methodology and consider pertinent aspects before incorporating it into their own research endeavours.

### **Benefits of Grounded Theory Methodology in LIS**

GTM is a robust approach in the field of Library and Information Science (LIS) that offers several distinct benefits for researchers. Firstly, GTM allows researchers to explore complex phenomena within the LIS domain, such as information behaviour, user experiences, and information literacy. By immersing themselves in the data gathered from various sources like interviews, observations, or documents, researchers can reveal rich insights and nuances that contribute to a comprehensive understanding of these phenomena. For instance, a researcher using GTM may conduct interviews with library patrons to explore their information-seeking behaviour in a digital environment, revealing intricate patterns and motivations behind their search strategies.

Moreover, GTM provides flexibility in both data collection and analysis methods, allowing researchers to adapt their approach as needed throughout the research process. This flexibility enables researchers to respond to emerging insights and explore new directions within their research area (Mason, 2002; Corbin & Strauss, 2008, 2014). For example, a researcher studying the impact of social media on information sharing in libraries may initially focus on interviews but then decide to incorporate social network analysis techniques to further explore patterns of communication and collaboration among library users.

Furthermore, GTM facilitates theory development within the LIS field by allowing theories to emerge from the data itself, rather than being imposed a priori. Through systematic analysis and comparison of data, researchers can

develop new theoretical frameworks and concepts that contribute to the theoretical foundation of LIS. For instance, a researcher conducting a GT study on the information seeking behaviour of marginalized communities may uncover a new conceptual framework that challenges existing theories and provides a deeper understanding of the information needs and access barriers faced by these communities.

Lastly, the insights generated through GTM research in LIS have practical implications for library practice and policy. For example, a study employing GTM to explore user preferences in library services may reveal that patrons prefer self-checkout systems over traditional circulation desks, prompting libraries to invest in technology to enhance user experience. Similarly, insights from information literacy research using GTM may inform the design of instructional programmes that better meet the diverse learning needs of library users, ultimately enhancing their information literacy skills.

As a whole, GTM offers LIS researchers a powerful toolkit for exploring complex phenomena, fostering theory development, and generating practical insights that can inform library practice and policy. Through its depth of understanding, flexibility, theory development capabilities, and practical applications, GTM continues to be a valuable approach in advancing knowledge within the field of LIS.

### **Challenges of GTM**

Using GT as a research method presents several challenges that researchers often encounter, especially when employing it for the first time. These challenges include remaining open to the data, avoiding preconceived notions, proper data coding, determining when to commence and conclude analysis, and assessing the significance of code density in the final theory. Although

there are answers to these questions in GT textbooks, they may not always be explicitly articulated in straightforward language. This stems from the fact that GT is not a step-by-step manual but rather a research approach, allowing researchers to adapt it to their specific contexts and justify each step of the research process.

Despite its benefits, GT poses inherent challenges. It is a time-intensive process, often requiring long-term engagement to allow theories to emerge organically from the dataset. Additionally, there is criticism regarding the potential bias introduced by the researcher's influence on theory development, leading to debates about GT's applicability in LIS research. Critics argue that conceptualizations may originate more from the researcher's background knowledge than from the data itself. However, adhering to GT principles ensures that concepts and categories emerge from the data, emphasizing the data's pivotal role in theory development (Timonen et al., 2018).

While acknowledging concerns about researcher influence, the author's personal experience suggests that following GT principles allows the data to drive theory development. Thus, attributing the final outcome solely to the researcher underestimates the data's influence in the GT process. Overall, despite its challenges, GT remains a valuable approach for generating theories grounded in empirical data in the LIS field.

## **Conclusion**

Despite its challenges, GTM offers a rigorous and systematic approach (Denk et al., 2012) to qualitative and mixed-method research, particularly suited to exploring complex phenomena within the LIS field. By embracing the principles of GTM, researchers can uncover new insights, develop theoretical frameworks, and contribute to the advancement of knowledge in library and

information sciences. As the field continues to evolve, GTM remains a valuable tool for researchers seeking to deepen their understanding of the intricate dynamics of information and its impact on society.

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