

# What's Next ? – Stepping towards the future of Electronic Thesis and Dissertation

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**Abstract:** Electronic Thesis and Dissertations (ETD) has evolved as a sole genre in building the Networked Digital Library of Thesis and Dissertations (NDLTD). Digitalisation of thesis and dissertations has already enhanced its quality, it is also broadly shaped owing to the intense interest of ETD users. Across the globe many ETDs are downloaded thousands of times. It's now time, to work on future path for meticulous deliberation. In order to contemplate functional strategies to make appropriate decisions, often organisations make efforts to forecast events and future relationships. Likewise, to explore the future of ETD those who have relevant exposure and experience having insight on factors affecting the present and future state of ETD were included as collaborative participants of this study. Real Time Delphi method of research design will be applied to diligently forecast the future pathway of ETD. The End Users (N33), Application Developers (N20) and Marketing Executives (2) were the three major categories of personals involved in ETD. Contemplating their rich experiences with linguistic distinction on ETD had explored the unforeseen huddles and determined the key driven force to exhibit the future. As years pass there will be thousands and millions of updates. The more we refine and evolve in the technical aspects of ETD, the users will adopt and locate their search at ease. This research approach has anticipated and unanticipated benefits, as the findings from this study was built on the constructive criticism of scholarly authors, technical and marketing experts on ETD to reflect on the perspective scheme on taking ETD to compete the global market which is a step ahead towards the future.

**Keywords:** Electronic Thesis, Desseration, ETD, Future, Digitalisation

## INTRODUCTION

Thesis and dissertation are the substratum of higher degree by research (HDR) education. These are the scholarly work that takes years of research and writing. The research are supervised by experts and often backed by high competitive grants and scholarship. Decades before the thesis and dissertations laid at the library, and majority of the reports languished in obscurity at university and college libraries as achieve. Long way after then, since 1987 then came the ETD initiative by the first discussion meet of worldwide digital library of students research. This meeting was hosted at the corporate headquarters in Ann Arbor, Micingan and members from Virgenia Tech and University of Mirchigan coupled with it (Fox 2017, 1-2). Virgenia Tec further amplified the cutting edge research and emphasized their student graduates to publish their research as ETD. Presently ETD has spread across the globe with digital libraries of Electronic Thesis and Dissertation.

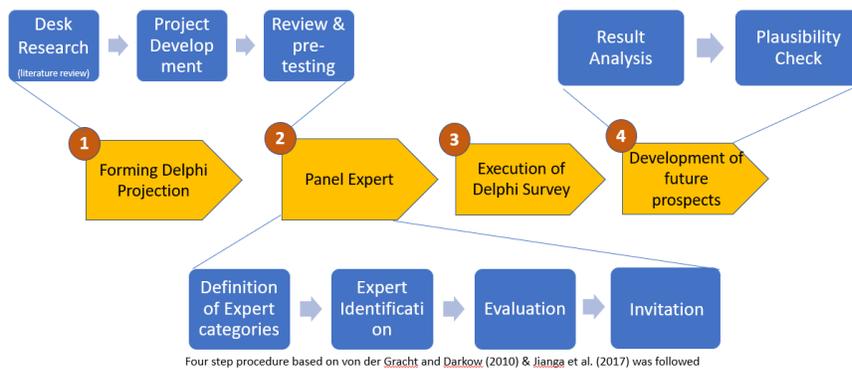
There are two types of ETD such as author produced document and electronic files generated by scanned pages of thesis and dissertation. ETD are enhanced by multimedia, cost effective when compared to paper thesis and dissertation and with technological supplements it helps to function more effectively in the Information Era. It promotes easy access to research and improves the visibility of researchers. It enables a quantum leap forward in erudite communication. When ETDs are concerned compared to the exponential growth and proliferation of the world wide web, academically sound databases and websites that one could access today, it is very clear that the ability to disseminate and engender digital information is enormously under-utilized. So how best to work on to create a reliable, legitimate, amassed strategy for the ETD to reach the unreachable? This thought enabled us to approach and consult those involved in ETDs enterprise to reflect on the current percepts of ETD and come out with robust schemes for a better future for ETD. The End Users, Application Developers and Marketing Executives - these three major categories of people were consulted for this research study. Contemplating their rich experiences with linguistic distinction on ETD has explored the unforeseen huddles, and determine the key driven force to exhibit the future.

To envision the future of Electronic Thesis and Dissertation (ETD) and define realistic strategies as vital partners of research and development, the following goals were set.

1. Detail examination of various perspectives on how the research world is moving with ETD.
2. Explore an informed version of how research publication through ETD could be the an important research partner
3. Recommend strategic approach for realisation of this vision.

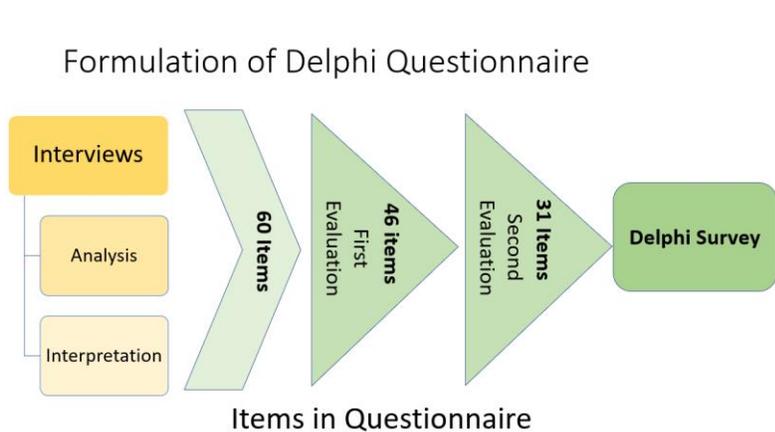
## **METHODOLOGY**

The future could be erratic and certainly technology might dictate the pace of change. Hence, institutions attempt to predict possibilities and validate their policy and economic insinuations. Forecasting developmental strategies and sturdy progression will quench the ultimate goal-line, to reason-out the possibilities and depict the trends (Gausemeier et al, 1998, 112 - 19). The scenarios of future shall permit us to follow and track various pathways of possible advancement. Two major stages were set initially to frame the outcome ETD and later to strategically plan on the basis of those projections. Forecasting studies are complex, the purpose is not to accurately rule-out the future, but to truly give possible directions for long term planning tool. Given the motivation of our research study to equally project the current status ETD into the future and to determine probability to correspond the impact ETD, Delphi research design was chosen as a pertinent method of this study.



**Figure 1 Delphi Research Method**

The methodology of Delphi (figure 1) is a multistage interactive predicting technique, that depend on the experts and core uses to detect propositions to facilitate developmental strategies (Gordon and Helmer-Hirschberg, 1964, 1-2). An absolute benefit of this methodology is the proposition of domain expert, who will be recruited strategically. The fundamental component of Delphi research is to evaluate the predictions of experts and end users with no ambiguity. Keeping the big picture in mind to forecast the developmental strategy of ETDs, insight into the qualitative remarks were noted. More than the view of a single person, ‘multiple perspective concept’ was appealed by the involved participation of the domain experts. The next step involved the recruitment of participants, the number of participants depend on the availability and heterogeneity. This gave an insight on the suffice pact to intricate the need to improve the use of ETD.



**Figure 2 Phases of Questionnaire Development**

To gain direct feedback and improve the accuracy of results, research reveals that Real-Time Delphi is better than conventional Delphi survey (Jiang, Kler, Piller. 2017, 91-96). This characteristics of Real-Time Delphi inspired us to adopt this methodology for our research study. The four step process shown by von der Gracht and Darkow (2010, 46-47) as illustrated in Figure 1, displays the overview of the steps followed. Initially projections to forecast were outlined based on ETD’s - appraisal, outcome and future..

## RESULTS

Delphi studies normally feature 15 to 60 participants and we accessed 55 individual participation, from different stakeholder's including the industry and academic premises in accordance with their corporate function and research experience. Hence, the final participants comprised of 55 individuals (33 End Users, 20 Application Developer and 2 Marketing Executives). Execution of Delphi questionnaire was administered by primary researchers meeting the participants in-person by clearly asking one question at a time. The probability was measured in percentage on 3-point Likert scale (ranging from more than 75% = high impact, 50 to 75% = moderate impact and less than 50 % = low impact). The participants were also asked to comment in the open text box and it was aggregate and content analysis was done.

**Table 2 Demographic variable of participants**

Variables	Values	N	(%)
Age	less than 30 years	7	12.7
	31 to 40 years	20	36.4
	41 to 50 years	13	23.6
	51 to 60 years	15	27.3
Gender	Male	37	67.3
	Female	18	32.7
Qualification	UG	5	9.1
	PG	13	23.6
	MPhil	14	25.5
	PhD	21	38.2
	Postdoc	2	3.6
Research Experience	1 to 5 years	10	18.2
	6 to 10 years	17	30.9
	11 to 20 years	17	30.9
	21 to 30 years	11	20.0
Sector of Institution	Government	26	47.2
	Government aided	9	16.4
	Deemed to be/Private	20	36.4
Number of Higher Degree by Research Students (PG, MPhil, PhD and Postdoc)	less than 500	8	14.5
	1001 to 2000	10	18.2
	2001 to 3000	15	27.3
	3001 and 4000	22	40.0
Role in Institution	End User	33	60.0
	Application Developer	20	36.4
	Marketing Executive	2	3.6

Descriptive statistics of the data (table 1) illustrate the demographic variables of the member participants, and table 2 highlight the summarized results. The participants arrived at four consensus out of 27 projections. In round 1 and 2 participants appraised on their own level of ETD

usage was assessed. In round the 3<sup>rd</sup> round the participants informed about the outcome of using ETD. In round 4 they informed the need for additive designed capabilities of ETD access. The fact that 9<sup>th</sup> projection showed that in India digitalization of ETD is profoundly lacking for PG students dissertation. Academic experts tend to lean towards the declined outcome of ETD (Projection 16 to 20), this informs the urgent need for the industry experts to enable provide a kind of products that will have higher impact on using ETD. Reevaluating their own results, the fellow categories of participants convergingly estimated that, research analyst aren't using ETD as effective as it supports to be. Analyzing the significance of the all projections by evaluating the items of each projection by Pearson Chi-Square intimates that maximum number of Projections 'p' value was less than 0.5, this validates the results of this study to be significant.

**Table 2 Delphi projections informing the current level of ETD use intimating the future need**

<b>NO. OF PROJECTIONS</b>	<b>Pearson Chi-Square</b>
<b>APPRAISAL OF ETD</b>	
1) 71.4% participants consider ETD as an important academic work for the Scientific	.248
2) 55.0 % participants use ETD's for regularly for literature review	.422
3) 80.0 % participants refer other countries ETD	.694
4) 57% participants first came to know about ETD by discovering during literature search	.032
<b>INSTITUTIONAL PERSPECTIVE OF ETD</b>	
5) 35% Institution make Thesis accessible by ETD data base	.476
6) 88.5% Institutions accept PhD Thesis in Electronic format	.134
7) 30.0% Institutions accept PG Dissertation in Electronic format at Institution	.295
8) 84.6% Institutions deposit PhD Thesis deposited in National Repository	.045
9) 11 % which means only one Institution deposit PG Dissertation in National Repository	.074
10) 25% participants are aware of access restriction (embargo) to Thesis and Dissertation	.267
11) 88.9% are not aware of policy on copyright issues related to ETD	.310
12) 35.0% institution include published full Article in ETD	.996
13) 55.0% witnessed refusal for publication (plagiarism) because of Open Access Thesis	.185
14) 27.3% Institution have mandate policy to refer ETD	.049
15) 29.1% felt ETD is still considered as low priority in literature review and it's a significant barrier of ETD use	.006
<b>OUTCOME OF ETD</b>	
16) 40% participants were able to Downloaded Protocol	.951
17) 29.1% Participants received further Scientific Data	.739
18) 25.5% Contacted Researchers	.159
19) 25.5% Developed Collaborations	.159

20) 23.6% Shared Recourses	.288
<b>FUTURE PRECEPTS OF ETD</b>	
21) Only 7.3% intimated that Research Analysist use ETD database effective	.790
22) 87.3% informed, if electronic version of Thesis is not available, would you outsource digitalisation service	.325
23) 54.5% intimated that digitalisation of thesis / research report/ protocol are easy	.062
24) 87.3% insisted that journal article arising from thesis is a form of Doubling/Repetition of research findings	.821
25) 87.3% suggest articles arising from Thesis must clearly mention the Original thesis link or so	.821
26) 76.4% Prefer Authors to be intimated on access to their ETD	.604
27) 27.3% participants wish Video enabled service of ETD as an Highest advancement that like to foresee, 20.0% like Teleport thesis and 16.4% considered having system updated information on latest ETDs	.068

## CONCLUSIONS

The aim of this paper was to succinctly understand the current system of ETD usage pattern in India, by making an attempt to forecast future by clearly addressing the system gaps to be closed. In this Delphi research method of forecasting we have included the 3 essential categories of personnel. As the findings from this study was built on the constructive criticism of experts on ETD reflect the current perspective scheme on taking ETD to compete the global market which is a step ahead towards the future. These findings also indicate that researchers (end users) and industry people (application developer and marketing executive) alike must involve continuous in monitoring and predict the additive domain of manufacture. To policy makers, findings from this research indicate an ongoing need for future observational studies. Finally our research has contributed and validated the application of forecasting research methodology which can be adopted by future researchers. Every study will have its own limitation and this study isn't without limitations. There were nearly similar number of participation from the End User (N33) and Application Developer (N20), perhaps only two (N2) Marketing Executives were available to participate in this study. In a way this could predict the limited number of Marketing people to market ETD. This study was conducted in the region of India and shall only inform the findings from the local community of participants with reliable expertise. Expanding this study International is outside the scope of this study, despite we hope that surely our study had fascinated us and the readers by addressing the present gaps in the system upon which the future can be built for sustainable ETD use.

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