Finding the root cause for PhD thesis completion delays by Doctoral Students at CST Faculty at SEE University – Macedonia

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DAAD WS 2018, Primosten, Croatia (2-8 September 2018)

Overview

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- PROBLEM STATEMENT

- APPROACH

- CONCLUSION AND RECOMANDATIONS

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Motivation

- We have faced the last 4 years extreme lag from student's perspective, as well as Faculty perspective in relation to:

   1. The starting process of theses

   2. The completion of the PhD thesis.

   ??????????   ????????????   ??????????

- Which are the reason to continue PhD study?

   1. May be student is interested to do research and to work in Academia or research centers.

   2. To get good position in the company

   3. Some other reasons…………..

PROBLEM STATEMENT

Fundamental problems

- Difficulties in making a real research proposal – 1-3 years

- Insufficient preparation during previous degrees

- Not trained for research and academic writing

- Tendency towards simplistic solutions without profound research

- Main interest: obtaining a registration to be able to teach at private universities, multiple cases

- Proposal: students should work full-time at the University during their PhD

- Insufficient long-term projects for involving them

DAAD WS 2016 Jahorina, B&H, (22-26 August 2016)

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PROBLEM STATEMENT

- We argue that the root cause for this is the proper definition of the thesis and thesis objectives by candidates and further verification of these objectives by relevant peer reviewing bodies, such as councils, conferences, workshops and similar.

- For verifying our argument and defining the root cause scientifically, we have collected 7 (seven) reviews from independent reviewers during the Doctoral Conference in Thessaloniki, Greece for 7 of our PhD candidates that are in the firs phase of their PhD thesis.

PROBLEM STATEMENT

- These reviews, which in content are qualitative and narrative feedback is most valuable for students, but our intention in this presentation is to identify several issues from the qualitative feedback and try to quantify them by using annotations that will later be used for classification purpose of the papers/reviews.

- This way we will try to identify several factors that may have caused the delay in previous generations and thus at the end propose recommendations for future enhancements and improvements of the PhD program and potential mechanisms to assist PhD candidates and the Faculty to successful completion and "on-time" completion of the thesis.

- **What might be the root cause for PhD thesis completion delays by Doctoral Students at Contemporary Sciences and Technologies at SEE University – Macedonia?**

- To move towards finding the root cause for the "delay" in graduating on time, we must analyze the Curriculum of Doctoral School in Computer Science at SEE University.

The Curriculum

Semester 1

- [DET0101] [10 ECTS] **Research Methodology**
- [DET0106] [10 ECTS] **Advanced Topics in the Field of Cloud Processing**
- [DET0103] [10 ECTS] **Advanced Topics in Information Systems**

Semester 2

- [DET0104] [10 ECTS] **Advanced Topics in Information and Communication Technologies**
- [10 ECTS] **Proffessional Elective Course**
- [10 ECTS] **Proffessional Elective Course**

Semester 3/4

- [DET0105] [20 ECTS] **Preparation and submission of the application for the topic of doctoral dissertation-research**
- [DET0106-S3] [10 ECTS] **Doctoral seminar with a presentation of the report I**
- [DET0107] [10 ECTS] **Researching and Organizing a Workshop for Research Practice**
- [DET0108] [20 ECTS] **Publications**

Semester 5

- [DET0109] [20 ECTS] **Presentation of Research Results**
- [DET0106-S5] [10 ECTS] **Doctoral seminar with a presentation of the report II**

Semester 6

- [CST-PhD-THESIS] [30 ECTS] **Doctoral Dissertation**

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The Curriculum

- The first year of studies, PhD students must complete a set of 6 courses and collect the credits for that.

- The most relevant course is the Research Methodology course that needs to help them identify research gaps and clearly define their potential area/title of PhD thesis work.

- Most of the students complete this cycle without any major issues, including the Research methodology course.

The Curriculum

- Next semesters, 3&4 are causing a headache.

- Namely, with the help of their mentor, they need to complete the application (proposal) for the research and same time present their idea and submit a paper for publication.

- This is the first momentum when the problems appear. Namely in order to publish a paper, they need to have a well-done research proposal, extend it, send it for review, conduct revision, present and publish it. The period for 4 months is not enough! Same goes for semester 4.

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The Curriculum

- After this period, according to the curriculum, the PhD candidates need to work intensively on their PhD thesis and meanwhile publish relevant papers related to their field of study. Any process of serious publication takes at least 6 months.

- The main "delay" is not due to the curriculum, but to the fact that majority of PhD candidates are not "full-time" / "on-campus" students

Moving to the PhD thesis proposal: Analyzing the Reviews

- We have analyzed a total of 7 reviews for PhD proposals from the Doctoral Student Conference 2018 (DSC 2018) which was held on 9-11 May 2018 at CITY College, International Faculty of the University of Sheffield, Thessaloniki, Greece.

- These reviews are only for the PhD students of Computer Science Doctoral School at South East European University in Tetovo, Macedonia.

The Summary Table

#	AREA	RELEVANCE (1-5)	TOPIC	STAGE OF WORK (early, mid, final)	WRITING STYLE	ISSUES / MISSING	TITLE
3	Data Mining, Hybrid Scalable Model for Recommendation	4	Interesting, usefull	Early	Fluent	Proofreading, related work, referencing, technical details	Missleading
4	Data Mining, Hybrid Scalable Model for Recommendation	4	Interesting, relevant	Early	Fluent	Proofreading, Objectives too high, related work, referencing, technical details	Missleading
5	Cryptography	3	Interesting, too wide	Early	Fluent	Proofreading, Missing details on comparison, no clear contribution, technical details, theoretical details	Too far from main objective
6	Cloud technologies	4	Interesting, relevant	Mid	Fluent	theoretical details, methodology, critical approach, theoretical details	Adequate
7	IoT, Web Streams of Data	5	Interesting, relevant	Early	Intermediate	Proofreading, related work, specific objectives, theoretical details	Adequate
8	Blockchain technology, smart contracts	5	Interesting, relevant	Early	Fluent	Proofreading, Research gaps, conclusions, referencing, theoretical details	Adequate
9	Cloud technologies, SLA	5	Interesting, relevant	Early	Intermediate	proofreading, specific objectives, research gap, references, theoretical details, technical details	Adequate

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Area of study

We have identified the following research areas of study for our PhD students:
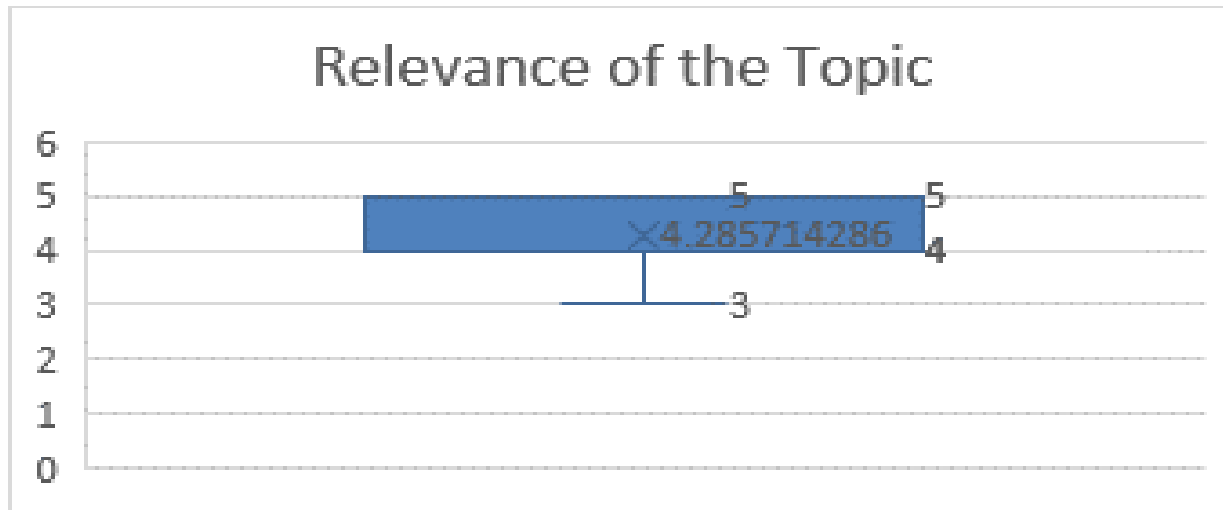
- **Data Mining**, Hybrid Scalable Model for Recommendation: 2 topics

- **Cryptography**: 1 topic

- **Cloud technologies** (including 1 in SLA): 2 topics

- **IoT**, Web Streams of Data: 1 topic

- **Blockchain technology**, smart contracts: 1 topic

The conclusion from the reviewers regarding the area of study results in interesting and relevant topics, in line with the current trends in Computer Science research.

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Relevance

From the reviewer's perspective in terms of Relevance of the topic, the results are near "very relevant" which is shown clearly in the box plot.

Relevance of the Topic

The writing style

- The writing style and language used in the writing of the proposal/paper presented in majority of the cases is resulting in Fluent English with minor grammatical errors.

- Under these circumstances we can conclude that the proposals and research areas of study of PhD students are relevant, well defined and well written.

Issues and Missing components

- The idea of analyzing these reviewer's comments was to identify issues with the PhD students' thesis and proposals namely.

- We have quantified the qualitative feedback and tried to summarize them into categories where majority of issues and/or missing component appear.

- The following are a matter of discussion:

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- **6/7 cases have issues with Proofreading**. The comments rely heavily on the way the candidate forms a sentence. For instance:

- "*study, Systematic mapping study*" -->It is probably a typo. "*The unfortunate... exploitation*." --> Rephrasing is required.

- Not clear the meaning of the sentence or it might be a typing / grammar issue.

- This shows that majority of the proposals have some type of grammatical error and inconsistent sentences. Moreover, it appears that sections of the proposal are not connected with previous paragraphs.

The following are a matter of discussion:

- **4/7 cases have serious issues with Referencing**. The comments here are usually for three issues in relation to referencing, and the are: not all references are included in the main text; the references are outdated; and there is no standardized citation style throughout the text

- **2/7 cases** have issues with **identifying latest and relevant related work** to their proposal.

- **2/7 cases** have issues with **detecting the research gap** from within the literature.

- details on the course of the thesis proposal.

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- **2/7 cases** have issues with **identifying latest and relevant related work** to their proposal**.**

- **2/7 cases** have issues with **detecting the research gap** from within the literature**.**

The following are a matter of discussion:

Amongst other comments by reviewers we see tendency of missing the overall objective of the thesis, or not having enough critical approach or comparison as methodology to verify the aim of the study. This is probably since most of the proposals are in the early stage of their work.

Conclusion

To summarize in terms of pro's that reviewers identified for PhD students at CST Faculty are:

- Very relevant research areas of study amongst PhD candidates with interesting topics and high potential for qualitative research

- Very good towards fluent English language writing style in their papers, well organized with minor proof-reading issues

- "Adequate" titles in their PhD thesis proposal amongst majority of the candidates

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Conclusion

To summarize in terms of issues that PhD students at CST Faculty are facing:

- Serious issues with proofreading and proper citation

- Minor-medium issues with identifying related work and research gap

- Proper technical and or theoretical information in the proposal but missing the complementing party, i.e. theory missing the technical component and technical one missing the theoretical component

Recommendations

- To apply the "full-time" / "on-campus" study model for PhD candidates to ensure their progress.

- To enforce even more the progress reporting procedure.

- To focus the Research methodology course furthermore in identifying the research gaps and thus defining the clear objectives of the PhD thesis proposals.

  This also to be encouraged by identifying the latest literature based on the trends and not historical/old articles in case they are obsolete.

Recommendations

- To direct PhD candidates to complement their research findings with appropriate "technical" and "theoretical" component to have a complete proposal.

- To assist and/or develop an Elective course that will help these students write and cite according to standards. This to be done by language instructors instead of Computer Science professors.

Thank you

Questions, Comments and Suggestions are welcomed!