DITA: Past, Present, and Future

Katherine B. Kelley

University of Minnesota

Author Note

Katherine B. Kelley, Department of Writing, University of Minnesota.

Correspondence concerning this article should be addressed to Katherine Kelley, Department of Writing Studies, University of Minnesota Twin Cities, Minneapolis, MN 55455.

Contact: kell1017@umn.edu

IRB Exempt #20170201kelley
Abstract

The technology and tools used by technical writers are constantly changing and evolving. One tool specifically has taken the spotlight in recent years to become one of the most adopted technical writing tools—the Darwin Information Typing Architecture (DITA). To gauge the usefulness and potential lifespan of DITA as a tool technical writers rely on, a survey of technical writing professionals who utilize DITA in their work was conducted asking for their opinions and thoughts regarding DITA and its lifespan as a tool. This paper explores how DITA has become an integral tool to the technical writing world and discusses what professionals and educators alike can expect of its future.

*Keywords: Darwin Information Typing Architecture*
Introduction

When studying technical writing, authoring in DITA has become an unavoidable course. Nowadays, more and more companies use DITA. Since the public release of DITA in 2005 technical writers and content professionals alike have attempted to discern if it is a tool that will last the test of time. Technical writing tools can become outdated in as few as 5 years as they become inefficient. This rapid technological obsolescence proves to be a challenge for professionals and educators alike as new tools replace old ones requiring new training and further education.

What Is DITA

DITA is an XML data model for authoring and publishing. It is an open standard defined and maintained by the Organization for Advancement of Structured Information Standards (OASIS). Originally developed by IBM as an internal tool to more efficiently reuse content in product documentation, DITA was donated to OASIS in 2004 for further development and eventual release to the public. OASIS formally approved and released the DITA 1.0 specification to the public in 2005 (Benz, 2010). DITA has gained widespread adoption in the technical documentation world, in companies such as Nokia, Oracle, Cisco and others.

Previous Studies and Surveys

In November 2009, WritePoint, a documentation solution company, conducted a survey to measure and document issues that technical communicators experience specifically with DITA. Overall, the results from their study showed that while there were still some known issues with utilizing DITA as a technical writing tool, professionals were still confident of its benefits. In their study, WritePoint stated that “documentation teams show that the overall impression from the DITA authoring process is positive, though issues that need to be solved do exist”
One respondent commented “I think there are some team members who would say “we are not satisfied,” by my impression overall is that we see current and future benefits but are also frustrated” (WritePoint, 2010).

Scriptorium, a content strategy consulting company, also conducted a DITA specific survey in 2009. With over 600 responses, it was concluded that there was a lot of hype around DITA, but also that it was backed up by data as it was one of the top three types of structure implemented, being implemented, or planned at the work environments of survey participants (O’Keefe, 2009).

Five years after the initial version of DITA was released, the DITA 1.2 specification was released in December 2010. The development of DITA 1.2 within OASIS was somewhat chaotic, with several incomplete proposals approved, with the dependencies of elements within some sections not being recognized until the final stages, and with much of the weight of the process falling to only a few OASIS Technical Committee members to review.

In 2012 Hannah Kirk, a technical writer at Cryptography Research, Inc. in San Francisco, CA commented that:

As time passes on, DITA will become more stable and implementing it will become easier. Five years ago, I wouldn’t have had the tolerance or resources to figure out how to implement DITA myself. But now, there’s enough information and expertise available that it isn’t as difficult as it once was—especially if you have some technical ability. And this will only continue to get better with time. So, for the most risk-averse of us out there, DITA might not be right solution right now, but in a few more years, it could be (Kirk H., 2012).
In 2013, Keith Schengili-Roberts conducted a survey called “Who is Using DITA and Where is it Being Used?” published in the Center for Information-Development Management (CIDM) newsletter Best Practices. Keith collected information from conference listings, emails, and customer references to know which companies are using DITA to produce their technical documentation. The survey showed that “400 firms have been identified as using the documentation standard. Undoubtedly there are more firms out there waiting to be discovered.” According to a survey conducted in 2015, DITA usage has increased. There are apparently 500 companies in the world using DITA, and 1,200 technical writers out of 150,000 registered on LinkedIn claim they are currently using it (Schengili-Roberts, 2015).

While over 500 firms and counting are using DITA (Schengili-Roberts, 2015), we need to determine if it is a tool which will be around long enough to deem further education installment and implementation by companies as beneficial. Are these skills that new technical writers need to be successful in today’s job market? Should professors be working DITA into their course learning objectives?

Methods

For this study, technical writing professionals were surveyed information regarding their thoughts, feelings and opinions towards DITA. The survey was created using Qualtrics, consisted of 33 questions, and took participants approximately 15 minutes to complete. The full survey can be viewed in Appendix A.

Posted in sixteen online communities all focusing on technical writing and content management, such as the ones seen in Table 1, technical writers participated in the survey voluntarily.
<table>
<thead>
<tr>
<th>Community/Group Name</th>
<th>Web Address</th>
<th>Number of Members</th>
<th>Date Survey Submitted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department of Writing Studies at the UMN</td>
<td><a href="https://www.linkedin.com/groups/2931851">https://www.linkedin.com/groups/2931851</a></td>
<td>473</td>
<td>3/6/17</td>
</tr>
<tr>
<td>Technical Writers in Action</td>
<td><a href="https://www.linkedin.com/groups/3711598">https://www.linkedin.com/groups/3711598</a></td>
<td>6,273</td>
<td>3/8/17</td>
</tr>
<tr>
<td>DITA Awareness Group</td>
<td><a href="https://www.linkedin.com/groups/162465">https://www.linkedin.com/groups/162465</a></td>
<td>7,857</td>
<td>3/6/17</td>
</tr>
</tbody>
</table>

Table 1: Sample of Online Communities Where Survey Was Posted

The full list of communities the survey was submitted to, including links to the communities and date the survey was posted, can be viewed in Appendix B. The same introductory statement was used everywhere the survey was posted:

**DITA Survey Invitation - University of Minnesota**

Hi Everyone,

I am a Scientific and Technical Writing graduate student at the University of Minnesota. For my final project I am examining public opinions relating to the Darwin Information Typing Architecture (DITA). I am inviting anyone who has worked with DITA to participate in this research study by completing the survey at the link below.

The survey takes approximately 15 minutes to complete. Once the survey closes at the end of March, three participants will be chosen at random to receive one of three $25 Visa gift cards.

Thank you for taking the time to assist me in my educational endeavors! If you require additional information or have questions, please contact me at the email listed below.

[https://umn.qualtrics.com/SE/?SID=SV_4Uh4ATurqC5KWqN](https://umn.qualtrics.com/SE/?SID=SV_4Uh4ATurqC5KWqN)

Cheers,
Kat Kelley | Kell1017@umn.edu
M.A. Scientific & Technical Communications
The survey was available from March 1st, 2017 to March 31st, 2017. Only technical writers with experience using DITA as a tool were able to participate. Participants who attempted to take the survey without experience with DITA were notified that they were ineligible to participate in the study, see Figure 2. Information was collected anonymously and no personal information relating to survey participants was requested. At the end of the survey, participants were given the option to request a copy of the study results, as well as the option to be entered into a random drawing for one of three $25 visa gift cards. Following the closure of the study, three participants were chosen at random using simple randomization.

Figure 2: Participant Ineligibility Notification

One survey question was released with incorrect formatting. The question “When learning how to use DITA, what resources did you use?” was intended to be a multiple-choice
question. The survey was formatted in such a way that survey participants were only able to select one answer. While many participants indicated this error by utilizing the “Other” choice text-box field, and went on to provide multiple answers that way, this study does not utilize the answers provided for that survey question. Once released, the survey was not edited in any way.

Coding

Following the closure of the survey, results were coded to better show trends. Recurring trends among participant answers were identified and looked at closer for potential significant relationships. As an example, a small portion of the results of the coding can be seen in Table 3.

<table>
<thead>
<tr>
<th>Participant #</th>
<th>Q20</th>
<th>Q21</th>
<th>Q22</th>
<th>Q23</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participant 1</td>
<td>Somewhat satisfied</td>
<td>Extremely likely</td>
<td>Extremely likely</td>
<td>Definitely yes</td>
</tr>
<tr>
<td>Participant 2</td>
<td>Very satisfied</td>
<td>Extremely likely</td>
<td>Extremely likely</td>
<td>Probably yes</td>
</tr>
<tr>
<td>Participant 3</td>
<td>Very satisfied</td>
<td>Extremely likely</td>
<td>Extremely likely</td>
<td>Definitely yes</td>
</tr>
<tr>
<td>Participant 4</td>
<td>Somewhat satisfied</td>
<td>Extremely likely</td>
<td>Extremely likely</td>
<td>Probably yes</td>
</tr>
<tr>
<td>Participant 5</td>
<td>Someone dissatisfied</td>
<td>Moderately unlikely</td>
<td>Moderately unlikely</td>
<td>Probably yes</td>
</tr>
</tbody>
</table>

Table 3: Coded Participant Answers

Gartner Hype Cycle

Another tool utilized by this study to discern the phase of DITA’s technological life cycle is the Gartner Hype Cycle, shown in Figure 4. The Gartner Hype Cycle is a graphical presentation of the maturity of emerging technologies created and used by the American research advisory and information technology firm Gartner (Gartner, 2017). Made up of five key phases of a technology’s life cycle, the Gartner Hype Cycle allows for the estimation of the maturity and adoption of technologies and applications, and how they are potentially relevant to solving business problems and identifying new opportunities (Gartner, 2017). By matching survey
participant answers regarding the DITA hype cycle, this study provides a view of where DITA currently stands and how it will evolve over time.

![Gartner Hype Cycle]

Figure 4: Gartner Hype Cycle

**Results and Discussion**

Over the past ten years, DITA has grown significantly in popularity. It has evolved and become a very flexible tool helping technical communicators to make their processes more efficient. Thus, it seems very likely that DITA will be around for another ten years, and potentially longer than that. Compared with previous studies, more people are finding that DITA meets their needs. The survey conducted for this study had 40 participants, 39 of which qualified to take the survey. Most participants found the survey through the social website Reddit.com.

**Length of Use Is Important**
Survey participants who had used DITA for less than 3 years tended to answer questions negatively towards DITA, placed it in the Trough of Disillusionment and weren’t likely to recommend it. On the other hand, survey participants who had 5 or more years of experience with DITA responded positively towards DITA throughout the survey. 50% of survey participants answered that they had used DITA for 5 or more years. These more experienced participants answered that they were very likely or extremely likely to recommend DITA as a tool to other technical writing professionals. They consistently answered yes, when asked if DITA was meeting their needs, and were much more active in DITA specific communities, often sharing over 10 examples of DITA communities that they belonged to. 64.52% of survey participants answered that they were Extremely Likely to recommend DITA as a company solution with 16.13% of participants answering that they were Moderately Likely to do so. The same participants also answered the same when asked how likely they were to recommend DITA to a friend of colleague.

![How Long Have You Used DITA?](image)

Figure 5: Survey Participant Answers - How Long Have You Used DITA?
Slope of Enlightenment

The Gartner Hype Cycle, made up of five key phases of a technology’s life cycle, allows for the estimation of the maturity and adoption of technologies and applications (Gartner, 2017). When asked which of the 5 phases they thought DITA was in currently, 48.39% of survey participants answered Slope of Enlightenment, see Figure 6. The Slope of Enlightenment phase is the time in the life cycle where the benefits of a technology have started to become clear to users. The technology is increasingly understood by the public, and second and third generation versions of it are starting to become available, having progressed through the Trough of Disillusionment phase. Not quite fully adopted by mainstream users, as technology is when it reaches the Plateau of Productivity phase, there are still likely people who are cautious about buying in.

Aside from being asked which Hype Cycle phase they thought DITA was in, other answers participants gave also helped to back up the idea that DITA is in the Slope of Enlightenment. 48.39% of participants answered that they were Very Satisfied overall with DITA. 32.36% only felt that they were Somewhat Satisfied. The remaining 19.25% of participants were either Neutral or Somewhat/Very Dissatisfied with DITA. This shows that while many people are enjoying DITA as a tool, there are still those who are unhappy with it. When asked if there were changes to DITA that they would like to see, 41.94% answered that there are still changes that need to be made with 32.26% thinking it’s great how it is right now. Combining this information, we can see a consensus that there are improvements that can still be made but people are generally looking at DITA with a positive mindset, even if there are still those who feel more cautious about it.
The Future of DITA

One finding of the study was very clear. Technical Writing professionals feel that DITA is here to stay. 70.97% of survey participants think that DITA will still be used in 5 years. While this dropped to 38.71% when participants were asked if they thought it would still be used in 10 years, it is a very positive outlook considering we live in a world where technology is constantly being outdated by newer solutions.

Study Limitations

One such limitation was the time constraint of the study. Future research could utilize one-on-one follow ups with survey participants to delve deeper into the comments they left. With additional time, focus groups with professionals from organization such as WritePoint and Scriptorum who had previously conducted research into DITA as a technical writing tool to gain
their insights now that time has passed would be beneficial. Another limitation was the number of survey participants. The same survey with a larger number of participants could help in identifying additional significant relationships between participant opinions towards DITA.

**Conclusion**

When IBM donated DITA to the OASIS organization in 2005, the main purpose was to spread it to other companies, outside the software world and to make it a universal information model. Over ten years later, figures seem to confirm that DITA has gained ground with a growing community of technical writers knowing how to work with DITA. Newer generations of technical writers are now in need of training on topic-based authoring and will undoubtedly be instrumental in spreading DITA in the future. With DITA around to stay, it will be important for technical writing educational programs to adopt DITA into their learning objectives.

Further developments of the DITA standard might also help make it more flexible and more universal. It would be interesting to consider currently existing training and educational resources and see where the learning gap is. At what point does a DITA professional transition from being a novice who dislikes the tool, to an advanced user who is willing to recommend it to their peers.
References


Appendix A

Survey Questions

Dear Participant,

My name is Katherine Kelley and I am a graduate student at the University of Minnesota. For my final project I am examining public opinions relating to the Darwin Information Typing Architecture (DITA). I am inviting anyone who has worked with DITA to participate in this research study by completing the following survey.

The following survey will require approximately 20 minutes to complete. If you chose to participate in this project, please answer all questions as honestly as possible. Participation is strictly voluntary and you may refuse to participate at any time.

The survey will open March 6th, 2017 and close on March 20th, 2017. Following the conclusion of the survey, three participants at random will be chosen to receive one of three $25 Visa gift cards. If you would like to be entered into the drawing please indicate this at the end of the survey.

Thank you for taking the time to assist me in my educational endeavors. The data collected will provide useful information regarding the Darwin Information Typing Architecture. If you would like a summary copy of this study please indicate this at the end of the survey. If you require additional information or have questions, please contact me at the number listed below.

Sincerely,
Have you ever used the Darwin Information Typing Architecture or Document Information Typing Architecture (DITA)?

DITA is an XML data model for authoring and publishing. It is an open standard that is defined and maintained by the OASIS DITA Technical Committee.

- Yes
- No

Do you work with DITA at your current place of employment?

- Yes
- No
What is the approximate size of the company you work for?

- Fewer than 50 employees
- Between 50 and 200 employees
- Between 200 and 1000 employees
- More than 1000 employees

What industry best represents the work that your organization does? Check all that apply.

- Banking
- Computer hardware
- Computer software
- DITA-related products or services
- Health care
- Industrial equipment manufacturing
- Medical equipment manufacturing
- Military
- Pharmaceuticals
- Public or governmental services
- Semiconductor
- Other - please specify
How many people in the organization are involved with using DITA?

What type of information do you develop? Check all that apply.

- Books or articles
- Contracts or other legal documents
- Learning and training content
- Policies and procedures
- Product development information
- Product support information
- Marketing material
- Technical information
- Other - please specify
What activities relating to DITA are you involved with? Check all that apply:

- Creating information
- Managing a DITA implementation
- Managing the implementation of DITA-related tools
- Developing style sheets
- Specializing or customizing DITA
- Determining the strategic direction of your content-management initiative
- Translating information
- Coordinating the localization process
- Managing content development
- Ensuring the quality of information
- Supporting DITA users
- Developing tools that support DITA
- Other - please specify

Indicate the percentage of your job that involves working with DITA.

- Less than 30%
- Between 30% and 70%
- More than 70%
Indicate the stage of your DITA implementation.

- Information gathering
- Implementation planning
- Proof of concept
- In development
- Productive use
- Rollout to the enterprise
- Ongoing optimization
- Other - please specify

Do you use DITA maps?

- Yes
- No
- Other - please specify

Do you have software that ensures writers to follow your organization's conventions?

- Yes
- No
- Other - please specify
Are your documents translated into multiple languages or localized in any other form?

- Yes
- No
- Other - please specify

Do you find that DITA meets your needs?

- Yes
- No
- Other, please specify
How long have you used DITA?

- Less than 6 months
- 6 months to less than 1 year
- 1 year to less than 3 years
- 3 years to less than 5 years
- 5 years or more

How did you feel when you learned about DITA as a tool?

- Very excited
- Interested
- Neutral
- Not interested
- Apprehensive
### How did you learn about DITA? Check all that apply.

- [ ] Reading the DITA Specification
- [ ] Reading a book about DITA
- [ ] Reading articles about DITA
- [ ] Taking a DITA workshop
- [ ] Attending a DITA conference session
- [ ] Downloading the DITA Open Toolkit and experimenting
- [ ] Downloading a DITA authoring tool
- [ ] Other - please specify

### When learning how to use DITA, what resources did you use? Check all that apply.

- [ ] Reading the DITA Specification
- [ ] Reading a book about DITA
- [ ] Reading articles about DITA
- [ ] Taking a DITA workshop
- [ ] Attending a DITA conference session
- [ ] Downloading the DITA Open Toolkit and experimenting
- [ ] Downloading a DITA authoring tool
- [ ] Other - please specify
How would you rate your overall satisfaction with DITA?

- Very satisfied
- Somewhat satisfied
- Neutral
- Someone dissatisfied
- Very dissatisfied

How likely are you to recommend DITA as a company documentation solution?

- Extremely likely
- Moderately likely
- Slightly likely
- Neither likely nor unlikely
- Slightly unlikely
- Moderately unlikely
- Extremely unlikely

How likely are you to recommend DITA to a friend/colleague?

- Extremely likely
- Moderately likely
- Slightly likely
- Neither likely nor unlikely
- Slightly unlikely
- Moderately unlikely
- Extremely unlikely
Do you feel that DITA will still be used in 5 to 10 years?

- Definitely yes
- Probably yes
- Might or might not
- Probably not
- Definitely not

Do you feel that DITA will still be used in more than 10 years?

- Definitely yes
- Probably yes
- Might or might not
- Probably not
- Definitely not
Do you subscribe to any of the following?

- [ ] DITA related blog(s) - please list
- [ ] DITA related LinkedIn Group - please list
- [ ] DITA related journal(s) or magazine(s) - please list
- [ ] Other - please specify

[Back] [Next]
Where do you feel DITA is currently in its hype cycle?

According to the American information technology research and advisory firm Gartner, there are five key phases in a hype cycle that represent the maturity, adoption and social application of specific technologies:

**Technology Trigger:** Early proof-of-concept stories and media interest trigger significant publicity.

**Peak of Inflated Expectations:** Early publicity produces a number of success stories — often accompanied by scores of failures.

**Trough of Disillusionment:** Interest wanes as experiments and implementations fail to deliver. Producers of the technology shake out or fail.

**Slope of Enlightenment:** More instances of how the technology can benefit the enterprise start to crystallize and become more widely understood.

**Plateau of Productivity:** Mainstream adoption starts to take off.
Is there anything that you have found surprising about DITA?

Are there changes to DITA or the Open Toolkit that you would like to see?

- 0 - No
- 1 to 9 - A few
- 10 to 49 - Several
- 50 or More - Many

What kind of changes, if any, would you like to see?
How did you hear about this survey?

☐ LinkedIn
☐ Employer
☐ Coworker
☐ Friend
☐ Other, please specify

Would you like to be entered into a random drawing for a $25 dollar Visa gift card? If you answer yes, please enter your email address below. Only one drawing entry per email address will be considered. The drawing will take place on March 21st, 2017 and winners will be notified by email.

☐ Yes
☐ No
Would you like to receive a summary copy of this study? If you answer yes, please enter your email address below. A summary copy will be sent to the provided email address in May of 2017.

☐ Yes
☐ No

Email Address

We thank you for your time spent taking this survey. Your response has been recorded.
## Appendix B

### Online Communities Where Survey Was Posted

<table>
<thead>
<tr>
<th>Community/Group Name</th>
<th>Web Address</th>
<th>Number of Members</th>
<th>Date Survey Submitted</th>
</tr>
</thead>
<tbody>
<tr>
<td>LinkedIn Page Post</td>
<td><a href="https://www.linkedin.com/in/techkatk/">https://www.linkedin.com/in/techkatk/</a></td>
<td>Approximately 467 million</td>
<td>3/20/17</td>
</tr>
<tr>
<td>LinkedIn Page Post</td>
<td><a href="https://www.linkedin.com/in/techkatk/">https://www.linkedin.com/in/techkatk/</a></td>
<td>Approximately 467 million</td>
<td>3/13/17</td>
</tr>
<tr>
<td>Reddit Post</td>
<td><a href="https://www.reddit.com/r/technicalwriting/comments/5z5ods/dita_survey_invitation_25_giftcard_drawing/">https://www.reddit.com/r/technicalwriting/comments/5z5ods/dita_survey_invitation_25_giftcard_drawing/</a></td>
<td>1,543</td>
<td>3/13/17</td>
</tr>
<tr>
<td>Twitter Tweet</td>
<td><a href="https://twitter.com/BoomFoxx/status/839556272605302791">https://twitter.com/BoomFoxx/status/839556272605302791</a></td>
<td></td>
<td>3/8/17</td>
</tr>
<tr>
<td>Department of Writing Studies at the UMN</td>
<td><a href="https://www.linkedin.com/groups/2931851">https://www.linkedin.com/groups/2931851</a></td>
<td>473</td>
<td>3/6/17</td>
</tr>
<tr>
<td>Technical Writers in Action</td>
<td><a href="https://www.linkedin.com/groups/3711598">https://www.linkedin.com/groups/3711598</a></td>
<td>6,273</td>
<td>3/8/17</td>
</tr>
<tr>
<td>DITA Awareness Group</td>
<td><a href="https://www.linkedin.com/groups/162465">https://www.linkedin.com/groups/162465</a></td>
<td>7,857</td>
<td>3/6/17</td>
</tr>
<tr>
<td>CIDM (The Center for Information-Development Management)</td>
<td><a href="https://www.linkedin.com/groups/1853169">https://www.linkedin.com/groups/1853169</a></td>
<td>3,200</td>
<td>3/20/17</td>
</tr>
<tr>
<td>DITA Metrics</td>
<td><a href="https://www.linkedin.com/groups/2916249">https://www.linkedin.com/groups/2916249</a></td>
<td>912</td>
<td>3/8/17</td>
</tr>
<tr>
<td>The Content Wrangler Community</td>
<td><a href="https://www.linkedin.com/groups/45138/profile">https://www.linkedin.com/groups/45138/profile</a></td>
<td>13,187</td>
<td>3/6/17</td>
</tr>
<tr>
<td>DITA Localization</td>
<td><a href="https://www.linkedin.com/groups/8410515/profile">https://www.linkedin.com/groups/8410515/profile</a></td>
<td>97</td>
<td>3/8/17</td>
</tr>
<tr>
<td>DITA for Small Teams</td>
<td><a href="https://www.linkedin.com/groups/3968768/profile">https://www.linkedin.com/groups/3968768/profile</a></td>
<td>802</td>
<td>3/8/17</td>
</tr>
<tr>
<td>----------------------</td>
<td>--------------------------------------------------</td>
<td>-----</td>
<td>-------</td>
</tr>
<tr>
<td>Lightweight DITA</td>
<td><a href="https://www.linkedin.com/groups/4943862/profile">https://www.linkedin.com/groups/4943862/profile</a></td>
<td>339</td>
<td>3/8/17</td>
</tr>
<tr>
<td>CODEX - The DITA</td>
<td><a href="https://www.linkedin.com/groups/3943657/profile">https://www.linkedin.com/groups/3943657/profile</a></td>
<td>32</td>
<td>3/20/17</td>
</tr>
<tr>
<td>Editor for Engineers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NLDITA</td>
<td><a href="https://www.linkedin.com/groups/1805166/profile">https://www.linkedin.com/groups/1805166/profile</a></td>
<td>125</td>
<td>3/9/17</td>
</tr>
</tbody>
</table>