

LEARNING FROM THE PROTESTANT REFORMATION: Connecting the 16th-Century Movement to Present-Day PSYOPS

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Bronze relief of the Gutenberg press, David d'Angers, 1839.

Two pivotal moments of the last millennium started in Germany, about seventy years and 250 miles (400 km) apart: the invention of the printing press by Johannes Gutenberg in 1450, and the Protestant Reformation, which became a Europe-wide movement when Martin Luther wrote and circulated his *Ninety-Five Theses* in 1517.¹ Variations on Gutenberg's movable-type printing press were essential to many forms of media until the digital age, and many have described it as one of the greatest inventions of the past thousand years.² Luther and other leaders of the Reformation made great use of the printing press to promote their movement, and the spread of the new printing technology both enabled and benefited from the publication of a broad religious literature, including many millions of Bibles, by Protestants, Catholics, and other religious movements in the sixteenth century alone. Just how essential the printing press was to the success of the Reformation, however, is a matter of much debate. Was Bernd Moeller right when he concluded, "No printing, no Reformation"?³ Did printing simply expedite an inevitable split in the Roman Catholic Church?

If so, what role did political, economic, and religious tensions between Church leaders in Rome and leaders and laity scattered throughout the Holy Roman Empire (HRE) play in the spread of the Reformation?

As a US Army psychological operations (PSYOP) officer living through another revolutionary time in communications (the digital revolution, with internet-based communications and social media dominating information sharing), and having studied the Protestant Reformation while in divinity school a decade ago, I was drawn to research the behavior change that spurred the Protestant Reformation. How did printing press technology affect the spread of ideas? How important was Martin Luther to this first media campaign? What can information operations professionals, specifically PSYOP practitioners, learn from this research regarding the use of new technology, media, the political climate, and propaganda to influence foreign target audiences?

This article reviews three main topics: the spread of the printing press, the spread of the Reformation, and the economic, political, and religious environment of the early Reformation. The goal is to draw out lessons from the Reformation and apply them to the principal PSYOP

objective: to influence changes in the behavior of foreign target audiences. Though proto-reformers such as John Wycliffe and Jan Hus warrant mention for their efforts to bring about ecumenical change before Luther, as do Luther's contemporaries Huldrych Zwingli, John Calvin, and John Knox, this study focuses on Luther's personal influence and his primary medium of communication.⁴

Three Catalysts for Change: Luther, the Press, and the Times

The Protestant Reformation likely benefited from a confluence of factors, all critical to its survival and ability to thrive and spread: a sophisticated and effective influencer in the person of Martin Luther; the emergence of one of the top inventions of the millennium—the printing press—geographically close to where Luther would come to prominence; and an economic, political, and religious climate ready for change.

The Spread of the Printing Press

Nearly all research into the spatial diffusion of the printing press leads to the work of the economist Jeremiah Dittmar. According to Dittmar, Johannes Gutenberg's printing press

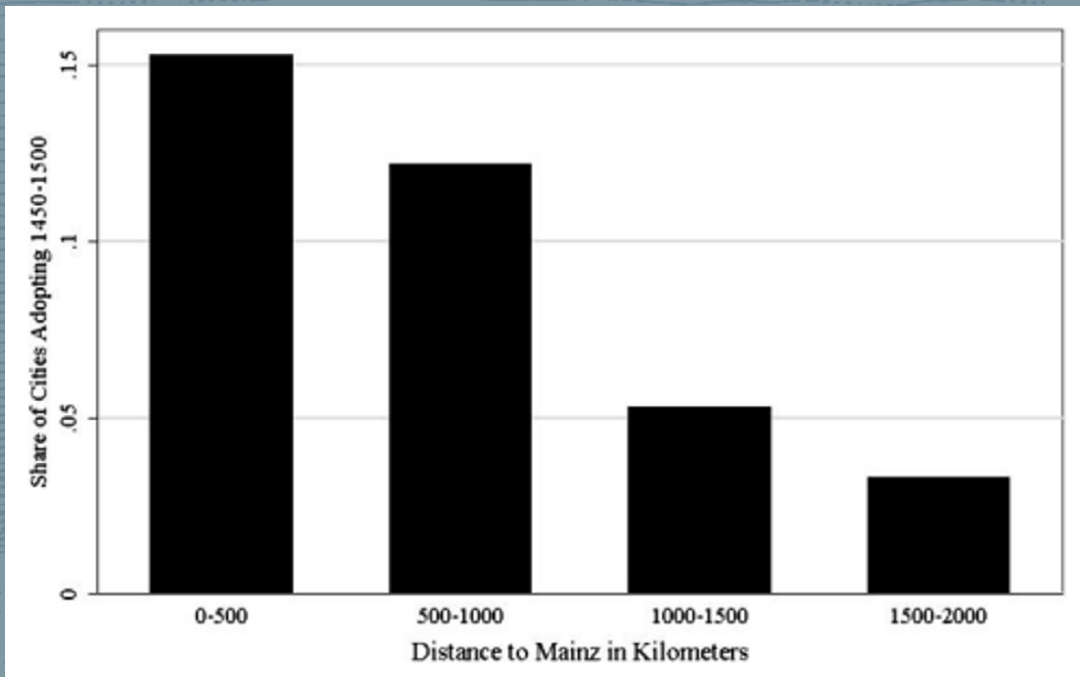


Figure 1. Cities Adopting Printing and Their Distance to Mainz⁵



Figure 2. 500 Kilometer and 1,000 Kilometer Distances from Mainz⁶

used a special metal alloy whose exact makeup remained a kind of proprietary secret for many years, although the laws of the time could not grant him a patent.⁷ The first specifications of the press were not released until 1540, 23 years after the start of the Reformation.⁸ Due to the secrecy surrounding Gutenberg’s design, the geographic spread of printing presses remained limited for 90 years, and most printers of the time had some connection to Gutenberg or his associates. As a result, cities less than 500 kilometers from Mainz, where Gutenberg’s shop was located, were about five times more likely to obtain a press during this timeframe than were cities 1,500 to 2,000 kilometers away from the origin city.⁹ Figure 1 shows Dittmar’s bar graph with the percentage of cities adopting the printing press for each 500-kilometer increment from Mainz. Most of the HRE lay within 500 kilometers of Mainz at the time, while most of Central Europe, France, England, and Italy lay within 1,000 kilometers (see figure 2).

Proximity, printing secrets and networks, common languages, common religion, ease of trade, and information sharing all played parts in the greater spatial diffusion within 1,000 kilometers of Mainz. Additionally, one of Gutenberg’s principal projects was the Gutenberg Bible, his version of the Latin Vulgate, which the Roman Catholic

Church would have found particularly appealing. According to Angus Maddison in *Growth and Interaction in the World Economy*, “by 1500, 220 printing presses were in operation throughout Western Europe and had produced 8 million books.”¹⁰ The University of Iowa’s Atlas of Early Printing website shows a slightly higher 282 printing presses by 1500, with the highest concentrations in modern-day Germany and northern Italy.¹¹ Figure 3 shows these locations, with the ring size around each city indicating its level of print output. As the map shows, Paris, Lyons, Strasbourg, Leipzig, Cologne, Venice, Florence, and Rome—all within a 1,000 kilometer radius of Mainz—yielded the greatest output by 1500.

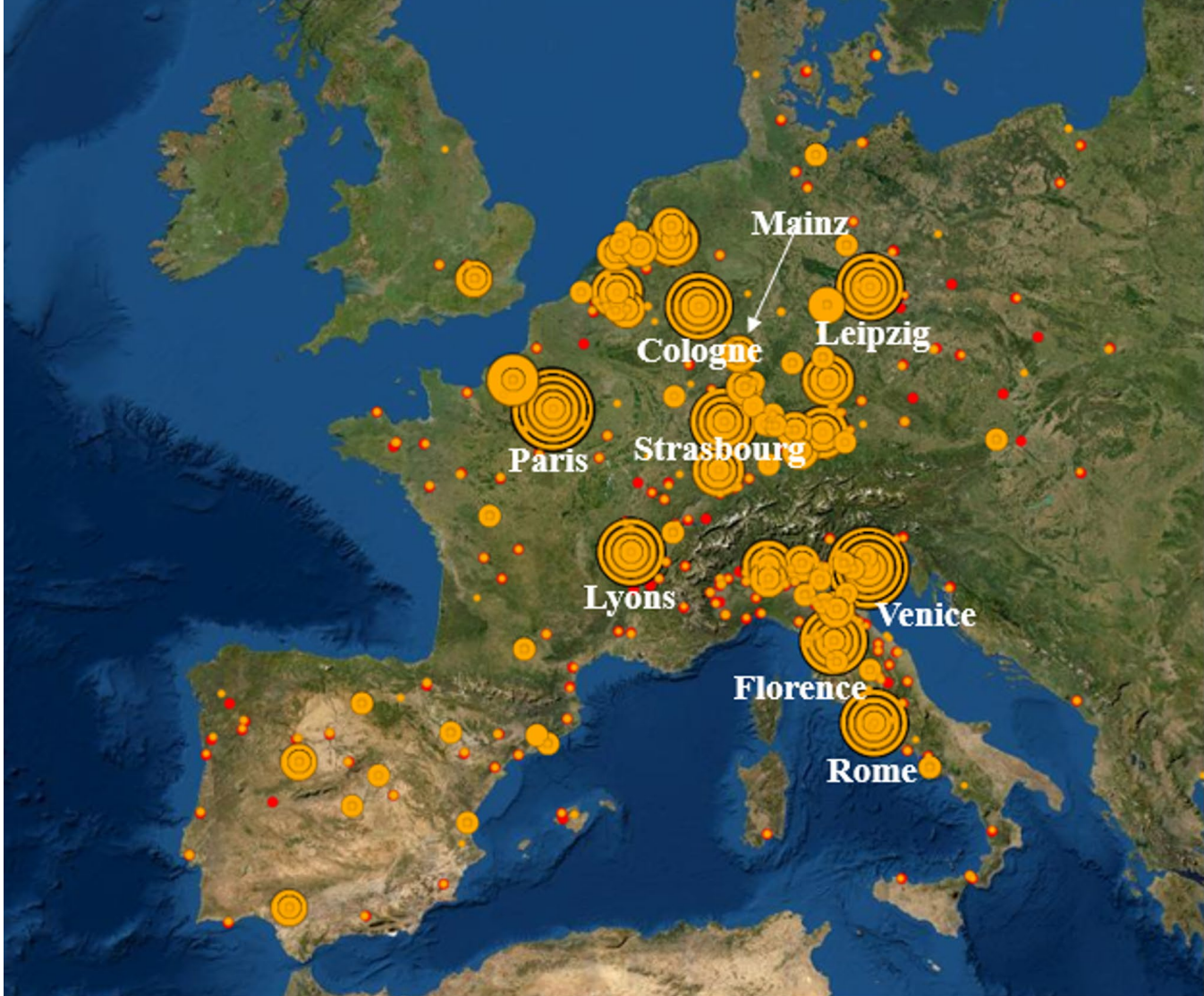


Figure 3: Printing Presses from 1450 to 1500 with Output Sizing¹²

The Spread of the Protestant Reformation

Martin Luther sparked the Protestant Reformation in 1517 with his *Ninety-Five Theses*, but many believe that act did little to truly incite the behavioral changes that led people and cities to join the Reformation movement. A number of researchers have tracked the spread of the Reformation and the potential catalysts that facilitated this diffusion, including the availability of printing presses to rapidly publish propaganda pamphlets, religious material, and Bibles; increasing use of the vernacular in such documents, which allowed far more people to read them; the greater volume of Protestant-aligned printed works compared to that of Catholics; and Martin Luther's ties to his students, other influential leaders, and the cities where he lectured.

In *Printing, Propaganda, and Martin Luther*, for example, author Mark U. Edwards Jr. presents statistics that demonstrate Luther's publishing prowess compared to both others in the Protestant movement (whom Edwards calls

Evangelicals) and the entire Roman Catholic Church. Edwards shows how Luther's prolific writing and popular appeal were welcomed by the owners and operators of printing presses across the HRE and vastly outshone those of Roman Catholics, especially his works in the vernacular. Edwards writes, "over the period 1518 to 1544, Luther's publications (that is, printings and reprintings of his works in German, excluding Bible translations) numbered at least 2,551. For the same period, the Catholic publicists produced 514 printings (or 542 if all undated printings are to be counted within this time span)."¹³

Edwards suggests that Luther understood, better than the Roman Catholic Church's adherents, that he needed to appeal to the hearts and minds of the laity as much as the clergy, if not more, and he did this with pamphlets. Edwards writes, "vernacular pamphlets were the physical embodiment of a message. Multiplied by the art of printing into hundreds of exact copies, cheap to buy and handy to pass around, these pamphlets were in some sense what they contained: an address to the laity to become involved in an unprecedented way in their own religious destiny."¹⁴ The Roman Catholic Church, however, continued to appeal to

the authority of clergy and scholars by printing mostly in Latin, and it largely chose not to challenge Luther and the other Evangelicals by publishing in the vernacular. After all, doing so would provide “apparent legitimacy to the Evangelical claim that there was something to debate.”¹⁵

Edwards does mention the low literacy rates of the sixteenth century, but argues, “Luther did not have to reach everyone, only those in positions of leadership or influence. The statistics suggest that, in fact, he reached a goodly number of such people.”¹⁶ Luther’s German-language New Testament seems to have had particular influence, and even Roman Catholic opponents to Luther used it as a reference when they did write in German.¹⁷

While Edwards emphasizes the apparent influence of printing even on a public with low literacy rates, his book does not include the statistics to show a correlation between printing and conversion. Jared Rubin’s article, “Printing and Protestants,” does show this connection through statistical analysis.¹⁸ Rubin’s key finding was that “the mere presence of a printing press prior to 1500 increased the probability that a city would become Protestant in 1530 by 52.1 percentage points, Protestant in 1560 by 41.9 percentage points, and Protestant in 1600 by 29.0 percentage points, *ceteris paribus*.”¹⁹ This implies that the effect of propaganda and printing was most important early in the Reformation, as Luther and other Evangelicals spread the ideas of the Reformation and helped them become widely understood and accepted.

In their article “Multiplex Network Ties and the Spatial Diffusion of Radical Innovations,” Sascha O. Becker, Yuan Hsiao, Steven Pfaff, and Jared Rubin, while not discounting Rubin’s earlier work, show the statistical significance of spatial diffusion in combination with Luther’s personal associations to the spread of the Reformation:

Luther’s ideas gained institutional purchase in cities where he had personal ties. Furthermore, cities where Luther had personal influence often had trade relationships with one another, creating clusters of adopting cities, which, in turn, activated spatial diffusion. Neither Luther’s personal ties nor spatial diffusion alone fully explains the spread of the early Reformation, but the *interdependent* combination of both does.²⁰

Much of this was due to the charisma of Luther and his persuasive influence on his contacts. The authors add, “as became evident by the time of the indulgence controversy in 1517 to 1518, Luther’s correspondence, visits, and

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cultivation of a cadre of devoted students connected an ideological entrepreneur with a widely-dispersed set of local elites who otherwise would have lacked a tie to the Wittenberg movement.”²¹ The results of their work provide strong support for their claims: the towns from which Luther’s students came to study with him at Wittenberg were over seven times more likely to become Protestant than other similar towns by 1530 (36 percent to 6 percent); towns Luther visited were over three times more likely to become Protestant by 1530 (50 percent to 16 percent); and towns to which he sent correspondence were 2.7 times more likely to be Protestant by 1530 (46 percent to 17 percent).²² The article also emphasizes the importance of the printing press and Luther’s influence to explain the timing and geography of the Reformation, and specifically to answer why the movement Luther led succeeded when prior dissenters had failed to bring widespread change to people’s attitudes toward their religion.²³

The Economic, Political, and Religious Climate of the Reformation

Another article, “Causes and Consequences of the Protestant Reformation,” provides insight into the interaction of politics and religion in the HRE by analyzing the body of research on the topic.²⁴ It organizes causes by looking at the “supply” of alternatives to Catholicism as well as the “demand” for such alternatives, and summarizes the results thus:

Long-lasting social and cultural upheavals are possible when a confluence of supply-side features coincide to permit challengers to the old regime to become sufficiently entrenched. Demand for reform existed for centuries prior to Luther. However, the reformers of the early 16th century were successful for several reasons having to do with timing and setting. These reasons include recent advances in information technology (the printing press); outside threats (the Ottomans) that sidetracked the attention and resources of the papacy and Habsburgs; the heterogeneous and decentralized nature of the HRE; and networks of sympathetic university students and intellectuals placed in strategic locations throughout the HRE.²⁵

Catholicism held a religious monopoly in the HRE and much of Europe for centuries leading up to the early sixteenth century, and thrived where it had the support of civil or royal authorities.²⁶ Economic, political, and religious factors can undermine a monopoly, however; for example, “first, economic growth may serve as a demand shifter. . . . Second, religious monopolists are prone to rent-seeking and poor performance. . . . Finally, religious firms seek the backing of secular political power.”²⁷ The article shows that each of these factors was in place at the time of the Reformation, though they did not guarantee the success of an alternative religious movement, and in many locations with these factors present, reform did not succeed.²⁸ The Reformation, though successful, was not universal. It succeeded or failed town by town, principality by principality, as a result of the factors previously mentioned and others unique to each of those specific locations.²⁹



Evaluating Luther by the Influencer Scorecard

To better understand why Martin Luther was so successful at spreading the ideas of the Reformation in sixteenth-century Europe, and to help identify potential social media influencers with whom US PSYOP practitioners might partner to reach a target audience (TA), Aaron Siebenaller and I created what we call an “Influencer Scorecard.”³⁰ The Scorecard has seven categories that measure the potential

for an individual to influence a pre-determined TA: (1) Alignment with the Desired Behavior; (2) Number of Followers; (3) Potential Reach, measured by shared demographic qualities between the influencer and the TA; (4) Engagement Rate, which is feedback from all sources; (5) Number of Times the Message is Shared; (6) Number of Times the Message is Mentioned; and (7) Frequency of Posts.³¹

We chose the categories based on influencer marketing research, two case studies, and interviews with experts in information operations. We modeled the scoring system after the US military’s targeting matrix, CARVER, adopting its one (1) through five (5)

score, with five (5) being the highest.³² We then analyzed the known data about Luther’s activities and the spread of his ideas according to the Scorecard, to determine how much Luther himself was a factor in the success of the Reformation. Though Luther used the printing press instead of TikTok or Instagram, these categories have analog printing press and in-person social network equivalents.

Alignment with the Desired Behavior

Because Martin Luther was the driving theological leader, scholar, and communicator for the reform he wanted to see in Roman Catholicism, he set the Desired Behavior and

the TA: he was both the influence practitioner and the key communicator. The TA was all Catholic believers, and specifically the laity, because he believed that Roman Catholic leaders and clergy had misinterpreted and corrupted the biblical teachings regarding salvation by separating them from what he believed to be true: that salvation came by grace through faith in Christ, not through one's actions, or "works" (e.g., participating in church sacraments, loving one's neighbor, charitable giving, or attending worship services). The overarching Desired Behavior, therefore, was for Catholics to adopt his understanding of the biblical path to salvation. Achieving this goal required the TA to develop a greater understanding of the Bible and Luther's interpretation, and it inevitably forced members of the TA to decide between the Roman Catholic Church's views and Protestant views. Luther's own Alignment with the Desired Behavior was high because he himself determined it, a factor that would make this category "unfair" if Luther were being compared to other influencers. He achieves a maximum score (5) on Alignment with the Desired Behavior, but since he was also the influence practitioner, this result is expected.

Number of Followers

Luther likely influenced more than a million people in his time (equivalent to a mega-influencer in modern social media terms) and countless millions through the present day, but he did not start that way. Luther grew his following from his network of students, scholars, and other correspondents; from his travels; and through his published writings. His German translation of the Latin Bible was used by both his disciples and his dissenters and became the standard Bible in German-speaking lands for centuries.³³ Though only a fraction of his TA could read, public readings, sermons, and public discourse helped diffuse his ideas even among non-readers. Therefore, Luther achieves a top score of five (5) in this category as well.

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Potential Reach

For the purposes of the Influencer Scorecard, Potential Reach is measured by demographic similarities between the key communicator and the TA: they have a shared nationality; the communicator posts (or writes, in Luther's

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case) primarily in the TA's language; he or she is from the same general locality as the TA; he or she shares interests with the TA; he or she shares information and opinions about the TA's locality (politics, events, local concerns, and so on); and he or she falls within the TA's average age window. Luther aligns better with some of these factors than others, but largely meets them all. Though publishing in the TA's language is common for influencers today, it was not common for theologians to publish in the vernacular during Luther's time. He realized the importance of the German-speaking audience and the need to use that language to influence them. This increased Luther's Potential Reach compared to his Catholic opposition, which confined itself to scholarly Latin. Luther achieves a high score of four (4) in this category but not a five (5), because his TA was spread throughout the HRE and did not often get involved in local politics, and he was a member of the clergy while his TA was primarily laity. He does, however, align with the TA on most other demographic qualities.

Engagement Rate

Engagement Rate in social media considers others' reactions (e.g., likes) and responses (e.g., comments) to an influencer's posts and is measured in comparison to other potential influencers. The equivalent response for Luther's time would include conversations among individuals who had read Luther's works, and between his readers and those who were not. It would also include printed responses to Luther's publications, both in favor of and against them. Luther started conversations that many felt compelled to engage with, verbally and in print. Luther's support in "the press" (printed works) was stronger than the dissent, as the Roman Catholic Church's response came largely through formal written letters, interviews, and a trial at the Diet of Worms (during which the content of Luther's writings was the primary evidence, and after which Luther was excommunicated from the Catholic Church).³⁴ Luther's publications spurred most of northern Germany and several other major cities to adopt Protestantism by 1529 (in the form of the Lutheran Church, the eponymous name of the Protestant church formed by those who accepted Luther's views

on the Bible and ecclesiology).³⁵ The reaction to Luther's body of printed material spearheaded unprecedented change in the religious landscape of the HRE and Western Europe, and thus he receives a maximum Engagement Rate score of five (5).

Times a Message is Shared

Times Shared measures shares or retweets on social media. This occurs when a person chooses to show someone else's post on his or her own social media feed. The equivalent during the early Reformation would be true sharing, such as passing print editions of Luther's publications from one person to another, or public readings of Luther's works. Perhaps the most effective sharing mechanism was

Frequency of Posts

"You miss one hundred percent of the shots you don't take," is a quote often attributed to Wayne Gretzky, the great hockey player (and commandeered by the Michael Scott character in *The Office*).³⁸ One of the keys to a successful influence campaign is frequent messaging to the TA, whether in social media posts or printed pamphlets and books. Luther excelled in the volume of material he produced. Many of these were short pamphlets, but he also translated the entire Bible into German and had it published. Luther far exceeded all other writers of his time in the frequency with which his works were printed, so he receives a five (5) for Frequency of Posts.³⁹

Luther's score of 33 on the Influencer

Scorecard shows that he was undoubtedly the best influencer of his time, using the best available media, and he was probably one of the most successful influencers ever.

reprinting. Luther's writings were by far the most reprinted and shared during the early years of the Reformation, so he would have achieved a maximum score of five (5) in Times Shared.³⁶

Times a Message is Mentioned

Times Mentioned differs from Times Shared because a social media persona will attempt to bring the attention of another user to the persona's original post by tagging or mentioning that other user. Because Luther was the most prolific writer of the early Reformation, many other writers did seek to gain his attention through direct responses to his works, expanding on his ideas or expressing direct opposition.³⁷ Since Times Mentioned is measured relative to other potential influencers (the influencer mentioned the most gets the highest score), an argument could be made for Luther to receive a maximum score in this category, but because Luther's focus and the focus of others was usually broader than directing their discourse toward or responding to a single individual (though this did happen occasionally), Luther scores a four (4) on this category of the Influencer Scorecard.

Results

For social media influencers, a "good" score typically lands in the mid-to-high 20s out of a possible 35. Luther's score of 33 on the Influencer Scorecard shows that he was undoubtedly the best influencer of his time, using the best available media, and he was probably one of the most successful influencers ever. Today the world has more than 800 million Protestants, 37 percent of the global Christian population, all of whom trace their key beliefs to Luther's interpretation of the Bible.⁴⁰ Though Luther was the only influencer analyzed here, this exercise reveals the utility of the Influencer Scorecard, with some slight shifts in language to capture the specifics of the medium used (e.g., the Gutenberg press vs. Instagram).

What Can PSYOP Practitioners Learn from the Reformation?

Prior studies reveal that many factors correlated strongly with the timing of the Reformation. Was Moeller correct when he said “No printing, no Reformation”?⁴¹ Probably. No Luther, no sixteenth-century Reformation? That is also likely. A political and religious climate with just enough open space for personal, political, and religious advancement to permit alternative theological ideas? A compelling claim. All these explanations could simultaneously have affected the success of the movement, which leads back to the concept that the Reformation was likely not a result of just one or two causal factors, but a confluence of many factors that ripened the environment in the sixteenth-century HRE for religious reform.

If each of this article’s main findings remains valid, how can the results inform the decisions and actions of those seeking to achieve behavior change in a target audience 500 years after Luther? Specifically, what can PSYOP practitioners learn from this study to apply to their primary mission of persuading foreign target audiences to adopt behavior change that support national security objectives? The case of the Reformation reveals three important components of a change movement that can apply to media campaigns in any era or location: identifying the right person (key communicator) and utilizing the right platform (medium or media) in the right environment (a favorable economic, social, religious, and political milieu).

US PSYOP practitioners often focus on creating the right series of messages to persuade a TA to change its behavior. TA analysis remains the primary step on which all other parts of the seven-phase PSYOP process hinge.⁴² Often, however, PSYOP efforts are frustrated because the communicators of the messages do not succeed in stirring up the necessary groundswell of support for the desired behavior change. Additionally, the political and socio-religious environment in which PSYOP practitioners launch their series can sometimes prevent a message from reaching the tipping point at which the desired behavior change can make a lasting difference.

Do movements happen only when a perfect storm of events, people, and environments collide, or can the building blocks of “reformation” be engineered? Special Operations Forces, PSYOP included, understand that a firm grasp on the operational variables—politics, military, economics, society, information, infrastructure, physical environment, and time—helps build understanding for any area of operation. Incorporating better means of identifying and selecting key communicators, however, has not received the same attention.

Viewing Luther’s role through a PSYOP lens

reinforces the perception that there are persistent gaps in the ways that US PSYOP doctrine, tactics, techniques, and procedures identify and analyze key communicators.

US PSYOP personnel have often tried to communicate the message themselves, through host-nation partner forces, or through select key communicators chosen for their willingness to work with the United States. Despite many available analytical tools in the broader PSYOP process, adoption of selection criteria for identifying, analyzing, and recruiting key communicators remains limited.⁴³ As the literature on Luther and the Protestant Reformation suggests, the right communicator for a particular target audience using media that effectively reaches the audience can make the difference in achieving the desired behavior change.

Conclusion

A confluence of favorable factors and entities helped give rise to the Protestant Reformation in the 1500s, including the founder and chief influencer (Martin Luther), world-changing technology (the printing press), and a political, economic, social, and religious environment open to religious competition. As revealed by statistical analysis from many sources, Luther and his prolific writing were responsible for much of this change, but he probably would not have achieved the level of success he did without having the moveable-type press to spread his message and the political context to permit it. Viewing Luther’s role through a PSYOP lens reinforces the perception that there are persistent gaps in the ways that US PSYOP doctrine, tactics, techniques, and procedures identify and analyze key communicators.

Long-lasting behavior change can prove difficult for even the best change agents and key communicators. Looking back at historical examples, such as Martin Luther and the

Protestant Reformation, can help identify some key components to achieving behavior change, but they also reveal the many interdependent factors to consider and the difficulty in engineering circumstances to achieve the desired behavior change. In light of the world's ever-increasing complexity, influence practitioners may not achieve every goal, but they can achieve their greatest potential by using the best person to communicate to the target audience, using the best available platforms within the operational context.

ABOUT THE AUTHOR

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NOTES

1. Luther's *Ninety-Five Theses*, written in 1517, disputed the Roman Catholic Church's practice of selling indulgences to forgive sins and reduce the sinner's time in purgatory. Luther believed indulgences cheapened grace and provided a false idea that one could purchase forgiveness of sins, avoiding true repentance. Volker Leppin and Timothy J. Wengert, "Sources for and against the Posting of the Ninety-Five Theses," *Lutheran Quarterly* 29 (2015): 389.
2. Larry Gormley, "The Greatest Inventions in the Past 1000 Years," eHistory, 2000: <https://ehistory.osu.edu/articles/greatest-inventions-past-1000-years>
3. Bernd Moeller, "Stadt und Buch: Bemerkungen zur Struktur der Reformatorischen Bewegung in Deutschland" ("City and Book: Remarks on the Structure of the Reformation Movement in Germany"), in *Stadtbürgertum und Adel in der Reformation (The Urban Classes and Nobility in the Reformation)*, ed. Wolfgang J. Mommsen, Peter Alter, and Robert W. Scribner (Stuttgart: Klett-Cotta, 1979), 30.
4. See, for example, Hans J. Hillerbrand, *The Protestant Reformation*: rev. ed. (London: HarperCollins, 2009); David Guy Fountain, *John Wycliffe: The Dawn of the Reformation* (Southampton, UK: Mayflower Christian, 1984); and Thomas A. Fudge, *Jan Hus: Religious Reform and Social Revolution in Bohemia* (London: Bloomsbury Academic, 2017).
5. Adapted from *ibid.* with permission from the author.
6. Satellite view of Western Europe map, Google Maps: <https://www.google.com/maps/@47.6828817,6.7275781,3092372m/data=!3m1!1e3le>. Radius layers created by author.
7. Jeremiah E. Dittmar, "Information Technology and Economic Change: The Impact of the Printing Press," *The Quarterly Journal of Economics* 126, no. 3 (August 2011): 1155: <https://academic.oup.com/qje/article-abstract/126/3/1133/1855353?redirectedFrom=fulltext>
8. *Ibid.*, 1153.
9. *Ibid.*, 1155.
10. Angus Maddison, *Growth and Interaction in the World Economy: The Roots of Modernity* (Washington, DC: AEI Press, 2005), 17–18.
11. "Atlas of Early Printing, 1450 to 1500: Spread of Printing," University of Iowa, June 2019: <https://atlas.lib.uiowa.edu/>. Used by permission of the Atlas's creators.
12. Adapted from "Atlas of Early Printing: Output by Location." Used by permission.
13. Mark U. Edwards Jr., *Printing, Propaganda, and Martin Luther* (Berkeley: University of California Press, 1994), 29.
14. *Ibid.*, 57.
15. *Ibid.*, 79.
16. *Ibid.*, 128.
17. *Ibid.*, 129.
18. Jared Rubin, "Printing and Protestants: An Empirical Test of the Role of Printing in the Reformation," *The Review of Economics and Statistics* 96, no. 2 (2014). Rubin's method uses probit (a binary outcome dependent variable) and instrumental variable regression analysis (which estimates causal relationships in the absence of controlled experiments).
19. *Ibid.*, 282.
20. Sascha O. Becker, Yuan Hsiao, Steven Pfaff, and Jared Rubin, "Multiplex Network Ties and the Spatial Diffusion of Radical Innovations: Martin Luther's Leadership in the Early Reformation," *American Sociological Review* 85, no. 5 (September 2020): 861.
21. *Ibid.*, 862.
22. *Ibid.*, 874.
23. *Ibid.*, 866.
24. Sascha O. Becker, Steven Pfaff, and Jared Rubin, "Causes and Consequences of the Protestant Reformation," *Explorations in Economic History* 62 (October 2016).
25. *Ibid.*, 21.
26. *Ibid.*, 5.
27. *Ibid.*, 5.

28. Ibid., 7–8.
29. Ibid., 22.
30. Charles M. Ware III and Aaron Siebenaller, “Identifying Influencers for PSYOP,” (master’s thesis, Naval Postgraduate School, 2021): <https://calhoun.nps.edu/handle/10945/68761>
31. Ibid. Scoring of Luther here uses closest equivalents to the social media Influencer Scorecard baseline and a brief justification of the score. For a more detailed understanding of the social media Influencer Scorecard and the baseline scoring system, see Ware and Siebenaller, “Identifying Influencers for PSYOP.”
32. Joint Chiefs of Staff, *Countering Threat Networks*, JP 3-25 (Washington, DC: Joint Chiefs of Staff, 2016), IV–12: www.jcs.mil/Portals/36/Documents/Doctrine/pubs/jp3_25.pdf. CARVER is an acronym that stands for Criticality, Accessibility, Recuperability, Vulnerability, Effect, and Recognizability.
33. Edwards, *Printing, Propaganda, and Martin Luther*, 129.
34. Douglas O. Linder “The Trial of Martin Luther: A Chronology,” Famous Trials: <https://famous-trials.com/luther/288-chronology>; Edwards, *Printing, Propaganda, and Martin Luther*, 57–58, 107.
35. Linder, “The Trial of Martin Luther: A Chronology.”
36. Edwards, *Printing, Propaganda, and Martin Luther*, 26, 29.
37. Ibid., 41–56, 59–82, 83–108.
38. “Wayne Gretzky Quotes,” BrainyQuote: https://www.brainyquote.com/quotes/wayne_gretzky_378694
39. Edwards, *Printing, Propaganda, and Martin Luther*, 26, 29.
40. Neha Sahgal, “500 Years after the Reformation, 5 Facts About Protestants Around the World,” Pew Research Center, 27 October 2017: <https://www.pewresearch.org/fact-tank/2017/10/27/500-years-after-the-reformation-5-facts-about-protestants-around-the-world/>
41. Moeller, “Stadt und Buch,” 30.
42. The Seven Phase PSYOP Process: (1) Planning; (2) Target Audience Analysis; (3) Series Development; (4) Product Development and Design; (5) Approval; (6) Production, Distribution, and Dissemination; (7) Evaluation. US Army John F. Kennedy Special Warfare Center and School, *Military Information Support Operations Process*, ST 33-01 (Fort Bragg, NC: USAJFKSWCS, 2014).
43. Two recent NPS theses have attempted to address this gap: Ware and Siebenaller’s “Identifying Influencers for PSYOP,” and Alexander R. Wingate, Kyle M. Gerik, and John A. Benson, “Analyzing Key Communicators” (master’s thesis, Naval Postgraduate School, 2022): <https://calhoun.nps.edu/handle/10945/69722>. While outside the scope of this article,

Luther would have stood out among his peers as a key communicator according to both the Influencer Scorecard created by Ware and Siebenaller and the Key Communicator Assessment Process developed by Wingate, Gerik, and Benson.