

TOGAF: Just the Next Fad That Turned into a New Religion

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Introduction

Currently the discourse in the enterprise architecture (EA) discipline largely revolves around The Open Group Architecture Framework (TOGAF). TOGAF is actively promoted by many consultancies and gurus as a leading EA framework. For example, The Open Group claims that TOGAF is “a proven Enterprise Architecture methodology and framework” as well as “the most prominent and reliable Enterprise Architecture standard in the world”. TOGAF describes an EA practice as an iterative step-wise process consisting of eight consecutive phases where each of these phases produces a specified set of architectural deliverables. This iterative process is titled as TOGAF architecture development method (ADM) and implies describing the current state, defining the desired future state, analyzing the gaps between these states, developing a transition plan, executing the plan and then repeating the same process all over again. But what is the true origin of TOGAF ADM? Where did TOGAF really come from? What is TOGAF?

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By Svyatoslav Kotusev (RMIT University)

Introduction

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Just the Next Fad...

In fact, the historical roots of the sequential step-by-step planning process currently recommended by TOGAF ADM can be traced back to the earliest proposed approaches to information systems planning [2, 3] and especially to the Business Systems Planning (BSP) methodology initiated by IBM in the end of the 1960s [4, 5, 6]. These early information systems planning methodologies advocated approximately the same step-wise planning approach closely resembling TOGAF ADM and also recommended in some form or the other to analyze the current information systems support, create a comprehensive plan of required information systems and then develop and follow the roadmap for transition from the current state to the desired future state [7].

After the introduction of BSP, other consulting companies readily proposed their own BSP-like planning methodologies essentially representing slightly different variations of BSP. These methodologies included, among others, Method/I promoted by Arthur Andersen (now Accenture), 4FRONT promoted by Deloitte & Touche (now Deloitte), Summit S promoted by Coopers & Lybrand (now part of PwC) and the analogous planning methodology promoted by Nolan, Norton & Company (now part of KPMG) [8, 9, 10]. Highly similar planning methodologies had been also proposed by individual consultants and gurus [11, 12, 13] and later even by U.S. government agencies [14, 15]. Although most of these methodologies used the newer and more fashionable term “architecture” in different variations, e.g. information systems architecture, and were positioned accordingly as architecture planning methodologies, all of them still advocated essentially the same old planning approach as BSP, i.e. understand the current architecture, develop the desired target architecture and compose the migration plan. Even the seminal BSP methodology itself in its later versions also switched from unfashionable information systems plans to more trendy architecture [16].

The next notable wave of architecture planning methodologies was Information Engineering. After being initially proposed by IBM alumni Clive Finkelstein and James Martin in 1981 [17, 18], Information Engineering eventually diverged into a number of distinct sub-streams and essentially became a broad umbrella term for a cohort of slightly different sibling methodologies promoted by various consultancies and gurus [19, 20, 21, 22], including James Martin’s Strategic Data/Information Planning [23, 24]. Information Engineering had a strong data accent and emphasized the importance of data as the most stable element of information systems. Information Engineering recommended first to develop a solid information architecture, or data architecture, and only then to derive the structure of necessary information systems from this architecture. However, despite its primary focus on data, Information Engineering still recommended fundamentally the same step-wise planning approach as the original BSP methodology, i.e. developing a comprehensive ideal architecture, contrasting this architecture with the existing information systems and then creating a transition plan to implement the required architecture.

Finally, the current term “enterprise architecture” became in vogue. The first planning methodology referring to enterprise architecture called Enterprise Architecture Planning (EAP) advocated the same familiar BSP-like planning approach and even explicitly admitted that “EAP has its roots in IBM’s BSP” [25, p. 53]. Later the EAP methodology provided the basis for the Federal Enterprise Architecture Framework (FEAF), one of the most well-known EA frameworks [26, pp. 20-22]. The fancy term “enterprise architecture” and its different variations, e.g. enterprise IT architecture or enterprise information architecture, had been willingly adopted by the broader consulting community. As a result, countless companies and gurus readily proposed their own EA methodologies and frameworks. This generation included, among others, the EA methodologies proposed by Bernard Boar [27],

Jaap Schekkerman [28] and Scott Bernard [29], the Department of Defense Architecture Framework (DoDAF) [30] and many other less prominent EA methodologies and frameworks [31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41]. Regardless of their apparent novelty, all these EA methodologies and frameworks essentially replicated the same decades-old planning approach inspired by BSP with minor deviations and also recommended to study the current state, describe the desired state, analyze the gaps and develop the roadmap in a very similar step-wise manner. Among these “new” EA frameworks was also TOGAF aggressively promoted by The Open Group [42]. TOGAF ADM is based on the earlier TAFIM architecture planning process [14], which was itself rooted in some previous architecture planning methodologies of the 1980s, and recommends exactly the same step-by-step planning methodology.

The brief historical analysis provided above clearly demonstrates that TOGAF as a planning approach *cannot be considered as new in any real sense*. For instance, virtually all phases, artifacts, deliverables, modeling techniques, architecture domains and other ideas that can be found in TOGAF had been actually proposed earlier by some of the numerous previous architecture-based planning methodologies. Put it simply, none of the core TOGAF ideas are really TOGAF-specific. Historically, TOGAF represents merely the next, rather recent methodology in the broader 50-years-old stream of various formal architecture-based planning methodologies promoted more or less successfully by different parties during different time periods from the 1960s to the present days. This stream gradually evolved through different epochs from information systems planning of the 1960s-1970s, to information systems architecture of the 1980s-1990s and finally to enterprise architecture of the 2000s-2010s. From this perspective, TOGAF can be considered only as one of many other similar “boats” flowing in the common “river” of architecture-based planning methodologies.

Despite the long historical evolution and considerable stylistic differences between various architecture-based methodologies, the overall planning approach, fundamental ideas and underlying assumptions of all these methodologies stayed largely unchanged through all these decades. Specifically, all architecture-based planning methodologies from BSP to TOGAF regardless of their specific titles, e.g. information systems plans or enterprise architecture, recommended essentially the same formal, top-down and step-wise planning approach, where each step produces certain deliverables providing an input for the subsequent steps. The high-level logic of all architecture-based methodologies is also very similar and in some or the other form always implies defining a comprehensive target architecture, comparing it with the existing IT landscape and then producing the implementation plan based on the identified gaps between the current and target architectures. All these methodologies advocate the same analysis-synthesis documentation-oriented plan-then-implement mechanistic attitude inspired by classic industrial engineering approaches, as if organizations can be planned and designed like buildings, ships or airplanes.

Due to their conceptual equivalency, the practical problems of all these architecture-based planning methodologies were always the same as well. These problems have been consistently reported from the mid-1980s to the present days by numerous independent researchers, observers and analysts [43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65]. All architecture-based planning methodologies required too much money, time and effort to execute. The resulting architectures were obsolete even before their completion. Moreover, these architectures were too technical, inflexible and unsuitable for decision-making. Architectural artifacts were considered as cryptic, arcane and inscrutable by their key stakeholders, especially by business leaders. Maintenance of these artifacts consumed enormous organizational resources. Architecture planning activities were

disconnected from other organizational processes. The developed architectures were ignored by decision-makers and eventually turned into “shelfware” without being implemented or used in any real sense. The analysis of the historical evolution, meaning, attitude and problems of the stream of formal architecture-based planning methodologies described above is summarized in Figure 1.

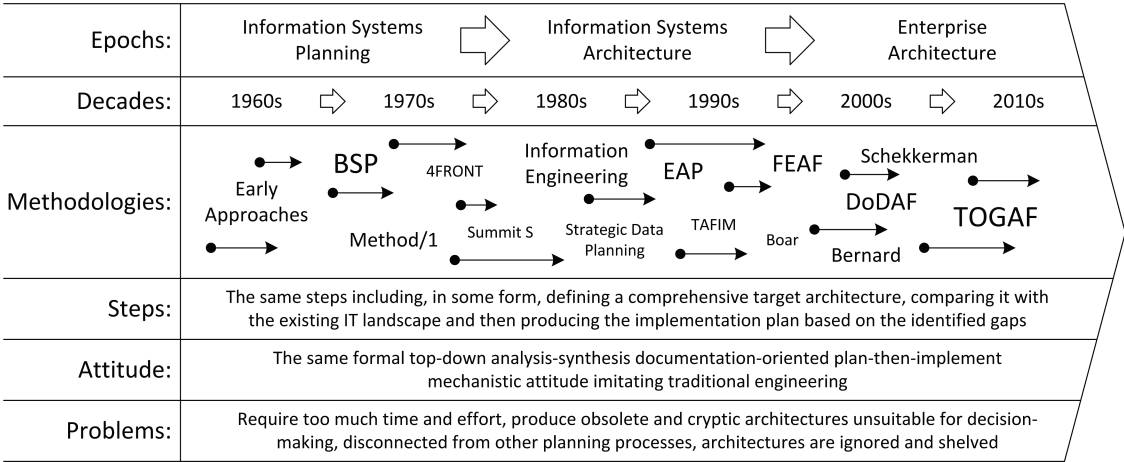


Figure 1. The stream of formal architecture-based planning methodologies

The historical analysis of the stream of formal architecture-based planning methodologies provided above clearly shows that all these methodologies represented only slightly different incarnations of the same pivotal planning approach and this approach always teemed with significant problems, never worked particularly well in organizations and demonstrated its practical ineffectiveness. Moreover, various independent researchers and observers at different time periods unanimously concluded that the problems with formal architecture-based planning methodologies, regardless of their current titles and “flavors”, are fundamental in nature. For example, Goodhue et al. [45, p. 28] concluded that “the evidence [from nine organizations that used BSP and similar planning methodologies] presented here strongly supports the need for a fundamental rethinking of IS planning methodologies”. Hamilton [63, p. 81] concluded that “findings from the study suggest strongly that the prescriptive approach to architecture-driven planning at the portfolio level is fundamentally flawed”. Gaver [55, p. 10] concluded that “EA often doesn’t work well anywhere because the problems with Enterprise Architecture [frameworks] are fundamental in nature”. These conclusions suggest that *the entire stream of architecture-based planning methodologies is profoundly faulty in its essence.*

From the historical perspective, formal architecture-based planning methodologies can be considered only as typical management fads [66, 67, 68, 69], i.e. aggressively promoted management techniques of passing popularity and questionable efficacy. Historically, numerous architecture-based methodologies constantly emerged under different titles (see Figure 1). All these methodologies were actively promoted for certain time periods by their commercially motivated vendors, proved their impracticality, discredited themselves and faded away, but only to be replaced later with some “new” methodologies replicating the same old ideas under refreshing and innovative titles, often even promoted by the same vendors. Essentially, the entire stream of architecture-based planning methodologies can be considered as an evolving “breed” of mutating management fads continuously reproducing themselves, where older generations are periodically substituted with newer generations still having the same wicked “DNA”.

Ironically, but acknowledged, well-documented, spectacular and extremely expensive failures of the latest generation of faddish and inherently flawed architecture-based methodologies, though again promoted as “proven best practices” by numerous irresponsible gurus and consultancies, can be openly found in the Internet. For example, the amazing practical “effectiveness” of FEAF can be vividly illustrated with the following quote from the report of a direct participant of the U.S. Federal Enterprise Architecture program: “Literally more than a billion dollars have been spent so far on Enterprise Architecture by the federal government, and much, if not most of it has been wasted” [55, p. 52]. Similarly, the “successes” of DoDAF can be illustrated with the following quote from the official audit report to the U.S. Congress: “Even though [the Department of Defense] has spent more than 10 years and at least \$379 million on its business enterprise architecture, its ability to use the architecture to guide and constrain investments has been limited” [70, p. ii]. Historically, FEAF and DoDAF represent only the next attempts to “sell” the same flawed mechanistic planning approach pioneered by BSP and other early planning methods of the 1960s, and were doomed to fail from the very beginning of the corresponding U.S. government initiatives.

Even more ironically, exactly the same story had been also reported earlier specifically regarding TAFIM, the direct and “officially” acknowledged predecessor of TOGAF. Due to the well-known problems associated with all formal architecture-based planning methodologies listed earlier, TAFIM was retired as impractical: “TAFIM most certainly required a large investment of both time and money”, “the elapsed time required to produce the architecture makes it close to obsolete before completion”, “the end result is normally incomprehensible to a business-oriented audience and is harder to trace to the business strategy” and “due to some of these flaws, the TAFIM was abruptly cancelled” [71, p. 79]. Paradoxically, but now the very same ideas of TAFIM that previously proved impractical and contributed to its retirement are again embodied with only minor modifications in the current international “best seller” TOGAF.

The analysis of the historical situation with formal architecture-based planning methodologies and their latest generation, i.e. modern EA frameworks, clearly shows that the today’s “proven Enterprise Architecture methodology and framework” TOGAF [1, p. 1] is nothing more than *a purest management fad based on the same plain old ideas that proved impractical long ago and never worked well in real organizations*. The step-wise planning methodology recommended by TOGAF ADM descends directly from the early information systems planning methodologies of the 1960s-1970s, while TOGAF itself is only the next offspring of the same “pedigree” of formal architecture-based planning methodologies. Historically, TOGAF “flows” in the same stream of architecture-based planning methodologies together with BSP, Method/1, Information Engineering, EAP, FEAF and all other earlier faddish methodologies (see Figure 1). From the evidence-based perspective, TOGAF is not a breakthrough, but merely a yet another flawed architecture-based planning methodology, just the next fad.

...That Turned into a New Religion

If the world was a perfectly logical place and people were completely free of cognitive biases, then TOGAF's story would be already over with a rather boring final. It would have been recognized as a management fad some time ago and peacefully forgotten like all the previous once-popular fads in the five-decades-old stream of architecture-based planning methodologies. For example, who now remembers the once-famous BSP methodology so actively promoted by IBM as “best practice” in information systems planning? Or, what about Information Engineering and its “fathers” Clive Finkelstein and James Martin who once enjoyed worldwide fame and recognition? These and many other analogous methodologies, e.g. Method/I, 4FRONT and EAP, had once been widely promoted, enriched their creators, proved impractical and disappeared without a trace. But if all the previous fads have gone, why TOGAF still did not?

Despite the endless problems with architecture-based planning methodologies, the promising potential of architecture itself, as some form of a systematic description of the relationship between business and IT, had been widely recognized by practitioners rather long ago [63, 72, 73]. Eventually certain genuine best practices in using architecture, and later enterprise architecture, *unrelated to flawed architecture-based methodologies* started to gradually emerge in industry, prove their practical effectiveness and then spread from organizations to organizations through hordes of “traveling” architects.

From the temporal perspective the propagation of these industry-born best practices seemingly coincided with the period of the most active TOGAF promotion. As a result, for many people the emergence of consistent industry-born best practices in using enterprise architecture became closely associated with TOGAF, even though any traceable cause-and-effect relationships between these best practices and TOGAF are missing. On the one hand, the actual prescriptions of TOGAF are impossible to implement successfully in practice, just like the prescriptions of all the previous discredited and forgotten methodologies from BSP to TAFIM. On the other hand, real EA best practices, e.g. using business capability models for focusing IT investments, among many others, are not described in TOGAF or any other architecture-based methodologies. In fact, the overlap between TOGAF and actual EA best practices is negligible and limited only to some trivial common-sense generalities, e.g. some EA artifacts are necessary for planning, all domains from business to infrastructure should be mutually aligned, both the current and desired states should be taken into account in some form, etc.

At the same time, The Open Group seemingly actively exploited the favorable but mistaken association between TOGAF and genuine EA best practices by attributing known EA success stories in organizations to the application of TOGAF, even when no actual relationship between them existed. For instance, The Open Group published on their website a long list of well-known organizations using TOGAF [74]. As part of my field studies I had a chance to visit five of these organizations and some of them indeed established rather successful and mature EA practices. However, these EA practices did not resemble the core TOGAF recommendations in any real sense. In particular, none of the five “officially” TOGAF-using organizations followed ADM steps or developed recommended EA artifacts [75, 76]. In every case the use of TOGAF was only declared, while practicing architects either considered it only as some general guidance without any specific far-reaching consequences, or in the most ironical cases did not even study its original text, but still knew that they used TOGAF. Essentially, *in all cases TOGAF proved to be only a superficial “signboard” under which very different approaches had been actually practiced.*

Another popular trick that was definitely widely used and is still actively exploited by countless TOGAF consultants and trainers is the proper “adaptation” of TOGAF. TOGAF

salesmen usually admit that TOGAF cannot be understood literally and used directly, but rather needs to be properly adapted to the needs of organizations, though without explaining or clarifying how exactly this adaptation should be accomplished. Unsurprisingly, numerous elusive, obscure, meaningless and unconvincing descriptions of the practical use of TOGAF can be often found here and there, for example, the following one: “Organizations start with an open framework like the TOGAF framework, but as it gets customized and tailored, it adapts to an organization’s culture to become their own “personalized” enterprise architecture model. As enterprise architecture matures in an organization, the TOGAF framework is still inside and powering their enterprise architecture but no longer very visible” [77, p. 16]. This deliberate mystification of the “adaptation” process can be considered as a natural and logical reaction of commercially motivated consultants on the abundant TOGAF criticism within the EA community. Essentially, the proclaimed need for unspecified but critically necessary “tailoring” provides the only possible way for TOGAF salesmen to elegantly explain the crying inconsistency between genuine EA best practices and deeply flawed recommendations of TOGAF.

Unfortunately, the situation with the incessant and irresponsible TOGAF promotion seemingly already went too far and confused too many people. Instead of rightfully acknowledging TOGAF as the next management fad in the 50-years-old stream of similar flawed architecture-based planning methodologies (see Figure 1) and discarding it as useless long time ago, the complex chain of peculiar historical circumstances described above has led essentially to the formation of a new religion called TOGAF, which rather rapidly disseminated across the EA community. Among the worshipers, TOGAF is praised as a collection of God-sent eternal EA best practices of non-empirical nature somehow defining the entire EA discipline, while the very existence of numerous earlier analogous methodologies that proved impractical is ignored or even denied.

The TOGAF faith is based on a number of simple quasi-religious beliefs that are usually taken for granted, even in the academic EA community, and cannot be proved or falsified with any evidence. These beliefs in some or the other form can be often heard in various TOGAF-related discussions and include, but are not limited to, the following deep-seated convictions:

- TOGAF provides a fundamental basis required for an EA practice
- TOGAF represents pure EA “theory”, which should necessarily exist in any discipline and is always different from actual practice
- TOGAF cannot be implemented directly and must be tailored before use because every organization is different
- Although TOGAF may significantly differ from the resulting EA practice, it still provides the necessary starting point
- TOGAF is intrinsically helpful, provides a common language to architects and implicitly empowers EA practices

None of these beliefs can withstand a detailed scrutiny or a scientific critique. For instance, “providing fundamental basis” is no more than a general slogan that does not imply any specific actionable consequences. Theory can indeed deviate from practice, but theory is backed by sound evidence, while TOGAF contradicts all available evidence. Organizations indeed can be different, but key TOGAF prescriptions cannot be implemented in any of them regardless of their differences. Using TOGAF as a starting point can be clearly attributed to the fact that genuine EA best practices are not yet formally documented and EA practitioners often simply have nothing else to start from. Moreover, the vast majority of TOGAF-related beliefs contradict fundamental scientific principles, most importantly, so-called Occam's razor (explanations with the fewest assumptions should be preferred) and Russell's teapot (burden of proof lies upon a person making unfalsifiable claims).

However, instead of questioning the sales-driven TOGAF promotion campaign, many people willingly and uncritically accept the postulates of the TOGAF faith. Moreover, many TOGAF-converted people invent their own argumentation to protect TOGAF from criticism. For example, popular reasoning in TOGAF's favor includes, but is not limited to, the following common arguments:

- TOGAF is only a framework, it is not even intended to be implemented
- TOGAF is only a tool, it cannot be blamed for failures
- For an EA practice you need good people, TOGAF itself is not enough

Even though each of these arguments definitely contains a grain of truth, these arguments are still dangerous half-truths masking the real problem of TOGAF: *its recommendations are impractical and hardly overlap with genuine EA best practices even from the purely factual perspective*, e.g. what activities should be carried out and what EA artifacts should be developed to improve business and IT alignment.

The ongoing confusion around TOGAF is seemingly also further aggravated by numerous direct inconsistencies and overall vagueness of the original TOGAF text. As Wierda [78, p. 67] fairly notices, “it is rather ironic that enterprise architecture frameworks [meaning TOGAF], their followers generally preaching a “fundamentals” or “highlevel” approach to design, consist of hundreds of pages of often inconsistent detail”. Essentially, TOGAF can be interpreted in multiple different ways and for many people represents only a “dictionary” where some EA-related terms can be found, but a meaningful end-to-end story is missing altogether. This inherent ambiguity of TOGAF spawns diverse and often curious interpretations of its true “hidden” meaning. For instance, one of the most recent and definitely the most paradoxical interpretation suggests that TOGAF is actually a solution architecture framework.

Finally, the extreme popularity, “success” and semi-religious admiration of specifically TOGAF (rather than any other architecture-based planning methodology) arguably can be considered as a purely accidental phenomenon. From the historical perspective, TOGAF is not new and not conceptually different from numerous previous architecture-based methodologies starting from BSP introduced in the end of the 1960s. The elevation of TOGAF out of the broad stream of multiple highly similar methodologies (see Figure 1) can be seemingly attributed to its comprehensive volume, intensive promotion and, most importantly, to its very lucky timing. In particular, TOGAF was promoted specifically during the time period when authentic industry-born EA best practices unrelated to TOGAF started to emerge and actively spread across the industry, the critical factor that was missing for all the previous prominent planning methodologies, e.g. BSP and Information Engineering. If these genuine best practices emerged earlier during the 1980s, when Information Engineering was at the very peak of its promotional intensity, then Information Engineering might have become the same type of religion instead of TOGAF. Likewise, if these best practices started to emerge only later, say, during the 2020s, then some hypothetical next faddish architecture-based methodology, e.g. BOGAF, DOGAF or ZOGAF, might have become a religion. However, since these best practices actually emerged exactly during the period of the aggressive TOGAF promotion, specifically TOGAF was the next faddish architecture-based planning methodology that turned into a new religion.

Conclusion

The curious story briefly outlined above describes how just the next management fad, which does not even deserve any special attention due to its obviousness, through aggressive marketing, irresponsible promotion, deceptive tricks and pure coincidence essentially turned into a new religion. While numerous earlier architecture-based planning methodologies proved impractical and naturally became history, TOGAF advocating exactly the same flawed and long-discredited ideas that cannot work successfully in practice suddenly became reality for many people. At the same time, the evident inconsistency between TOGAF and genuine EA best practices is tolerated, the practical problems of TOGAF are ignored and their discussion is substituted with vague and misguiding explanations ranging from commonplace ones, e.g. TOGAF needs to be applied wisely, to rather exotic ones, e.g. TOGAF is actually intended for solution architecture.

The curious story of TOGAF can be considered as a brilliant victory of marketing and, at the same time, as a shameful loss of evidence-based research and common sense in general. On the one hand, TOGAF promoters were able to persuade numerous educated people that “black is white”, i.e. sell proven worst practices essentially as new best practices even without demonstrating any examples of their successful practical implementation. On the other hand, due to the passive and overly “theoretical” attitude the academic EA community, with some notable exceptions, was generally unable to spot the faddish nature of TOGAF and effectively communicate the realistic information to the practitioner community, let alone propose a better evidence-based alternative to flawed architecture-based planning methodologies. This fact is especially disappointing since the acute problems with early architecture-based methodologies had been studied and reported long ago in the most prestigious academic journal *MIS Quarterly* [45, 46, 49], but subsequently these findings were ignored and forgotten even by the academics themselves.

The semi-religious nature of TOGAF generally has a very negative impact on the entire EA discipline. Like any religion, the TOGAF faith is based on certain dogmas, rather than on established facts, and the persistent focus on the same permanent dogmas essentially blocks the real progress and normal development of the EA discipline. Endless elusive TOGAF-centered discussions, e.g. how to use TOGAF properly or adapt it to the organizational culture, only distract the attention of the EA community from the actual problems, while evidence-based attempts to analyze genuine EA best practices still remain rather limited [78, 79, 80, 81, 82, 83, 84, 85].

Unfortunately, the TOGAF faith arguably came here to stay and is unlikely to go away in the near future. Therefore, members of the EA community should be prepared to adequately react on it and resist the aggressive TOGAF propaganda. In particular, EA practitioners should clearly understand the impracticality of TOGAF, trust their own common sense and “gut feeling” and switch their attention on learning, sharing and exchanging genuine EA best practices that proved effective in real organizations, while EA academics should finally acknowledge the faddish nature of TOGAF and start studying EA practices in a TOGAF-free manner.

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