













#### IV. CONCLUSIONS AND FUTURE WORKS

In this paper, we present a layered architecture that addresses a lifecycle-based social BPM to support an effective management of business processes by emphasizing on the use of social tools in the BPM lifecycle under the TOGAF framework. For illustration, the architecture is applied to a social BPM for book publishing. The desired requirements for the social BPM for publishing new books are identified, realized, and achieved for more satisfying the prospective participants (i.e., the book publishers and relevant book authors).

As our future work, we will continue to explore the real implementation of the architecture on such a social BPM for book publishing. In addition, we will also study its application and implementation on other kinds of social BPM including for instance book retails and exchanges. Thereafter, we will look also forward to the practical use of the architecture in other application domains like Collaborative Commerce and Supply Chain Management; the usability of applying such features as the TOGAF framework and social entities on the four phases and relevant accessed artifacts of the social BPM lifecycle will be carefully experienced.

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#### REFERENCES

- [1] J. Vom Brocke and M. Rosemann, *Handbook on Business Process Management*, Berlin, Springer, 2010.
- [2] M. Weske, *Business Process Management: Concepts, Languages, and Architectures*, Berlin, Springer, 2007.
- [3] K. Vollmer, "Using BPM to Improve Operational Efficiency," *Forrester Research*, 2008, pp. 1-4.
- [4] M. Brambilla, et al., "A Model-Driven Approach to Social BPM Applications," *Social BPM Handbook*, BPM and Workflow Handbook Series, Future Strategies, USA, 2011, pp. 95-112.
- [5] R. Marcello, et al., "Configurable Multi-Perspective Business Process Models," *Information Systems*, 36(3), 2011, pp. 313-340.
- [6] D. Werth and C. Valentin, "Business Processes as Social Entities – A Use Case Driven Approach," *Pacific Asia Journal of the Association for Information Systems*, 5(3), 2013, pp. 65-84.
- [7] DoDAF, *DoDAF 2.0*, [http://dodcio.defense.gov/Portals/0/Documents/DODAF/DoDAF\\_v2-02\\_web.pdf](http://dodcio.defense.gov/Portals/0/Documents/DODAF/DoDAF_v2-02_web.pdf).
- [8] TOGAF, *TOGAF 9.1 Online*, <http://pubs.opengroup.org/architecture/togaf9-doc/arch/>
- [9] J. Zachman, *The Zachman Framework Evolution*, Zachman International, 2009.
- [10] G. Booch, et al., *The Unified Modeling Language User Guide*, 2<sup>nd</sup> Ed., Addison Wesley, 2005.
- [11] E. Yiannis and L. Thomas, "Specification and Analysis of Parallel/Distributed Software and Systems by Petri Nets with Transition Enabling Function," *IEEE Trans. on Software Engineering*, vol. 18, no. 3, March 1992, pp. 252-261.
- [12] W. van Aalst, "Process Mining," *Communications of the ACM*, vol. 55, no. 8, 2012, pp. 76-83.
- [13] J. Lin, "An Object-Oriented Development Method for Consumer Support Systems," *The International Journal of Software Engineering and Knowledge Engineering*, 19(7), 2009, pp. 933-960.

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