























**Figure 2.** Theoretical model of CSC adoption by certification authorities.

## 5 Discussion and Conclusion

Based on a literature analysis, we developed a theoretical model by integrating the DOI theory and the TOE framework complemented by risk and cost factors to examine which factors influence the adoption of continuous cloud service certification. Thereby, we are able to analyze the adoption of an innovation from two different perspectives: the innovation itself with its characteristics and the surrounding organizational and environmental contexts. This study shows that many factors have an important impact on the adoption of CSC. We believe that the multifarious relative advantages of CSC and a high degree of observability will strongly motivate certification authorities to adopt CSC. On the other hand, a limited compatibility and a high complexity might hamper adoption. In regard to organizational factors, top management support and a high technical competence will positively influence the adoption of CSC. As environmental factors, customer and competitive pressures are of great importance when adopting CSC of cloud services. At last, risks and costs are relevant inhibitors for the adoption of CSC.

The identified and discussed factors have been considered separately, but some are closely related to each other, which might result in moderating effects on the adoption intention. First, relative advantages of CSC – due to a high observability of CSC results – are visible for both cloud customers and competitors, and thus they can lead to an increase of customer and competitive pressure as environmental factors. Second, a high technological competence, for example, due to the existence of a well-equipped IT department with well-trained specialists, reduces the complexity of CSC as well as increases innovation's compatibility. Finally, a close interrelationship between environmental pressures as well as perceived relative advantages, and top management support is apparent because they influence the strategy of an organization and actions that are preferred by the management.

With this study, we provide a two-fold contribution for research and practice. First, we advance the understanding of the CSC adoption process by providing a synthesis and discussion of relevant factors that influence adoption rate from a DOI and TOE perspective. Investigating how the attributes of an innovation affect its rate of adoption can be of great value to change agents seeking to predict the reactions to an innovation, and perhaps to modify certain of these reactions by the way they name and position an innovation [9]. Finally, we provide a theoretical model to be tested in future research to validate our assumptions, and to enhance the adoption process.

Nevertheless, this study has some limitations. Our discussion of the factors is based on literature analysis and theoretical reasoning research only since at the current diffusion state only a minority of certification authorities have started to deal with CSC adoption. However, we are currently working on a quantitative study to analyze to what extent the discussed factors influence CSC adoption. Within this study we focused on the adoption of CSC of cloud services by certification authorities, hence our theoretical model might be limited in regard to the context of cloud services as well as for the certification authorities as stakeholder. Finally, we neglected factors of individual adopters (i.e., managers) which might be of great importance in the actual adoption decision process.

*“Last, [...] an innovation's rate of adoption is affected by the extent of change agents' promotion efforts”* [9]. On this account, we want to encourage researchers and practitioners with this study to participate in adopting and diffusing CSC.

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