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RESEARCH PAPER

Development of a maturity model for electronic invoice processes

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Abstract The digitalization of invoice processes provides a good opportunity for companies to pare down expenses, optimize administrative tasks, and increase efficiency and competitiveness. But the digitalization is limited by a variety of software solutions, legal uncertainties, heterogeneous demands, lack of know-how, and information system infrastructure incompatibilities. A holistic map of electronic invoice processes is mandatory, especially to demonstrate different levels of process integration and optimization. A maturity model puts this into practice and provides companies with a tool to identify their current situation and to derive recommendations to optimize that situation. In this paper, a maturity model for electronic invoice processes will be developed using exploratory data from focus groups. A theoretical approach that is based on a procedure-model for developing maturity models is applied. Four categories (strategy, acceptance, processes & organization, and technology) are identified and enriched by sub-categories. Future research requires the development of detailed maturity metrics.

Keywords e-business · e-invoicing · e-invoice processes · Maturity model

JEL classification M150

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Introduction

The digitalization of business processes is an essential method for cutting administrative costs, improving productivity in business processes, and achieving process transparency (EU Expert Group on e-Invoicing 2009). In order to improve efficiency and provide competitive advantages to companies, it is crucial to use information systems (IS) to support internal business processes (Becker et al. 2009; Sandberg et al. 2009) and processes with business partners (Tanner et al. 2008).

Although invoice processes do not create value in the majority of cases, the electronic exchange of invoices is expected to generate significant economic benefits, especially if the electronic invoice (e-invoice) provides structured data for automated processing. E-invoices promise savings of both cost and time, because they reduce manual work, input errors, printing, and transport costs (EU Expert Group on e-Invoicing 2009; European Commission 2010; Sandberg et al. 2009). Further, workflows, process transparency, and traceability are improved by e-invoice processes (Haag et al. 2013). Despite the obvious benefits, the market penetration of e-invoices in the EU is only about five percent for business-to-business (B2B) transactions (European Commission 2010). Barriers to participation are the lack of awareness, lack of business strategy, and lack of adequate IS for process optimization, as well as high investment costs, legal uncertainty, lack of standard e-invoice processes, and heterogeneous demands of the business partners (Haag et al. 2013; Legner and Wende 2006; Sandberg et al. 2009; Tanner et al. 2008). In addition to technical and organizational barriers, there are also legal uncertainties (Kreuzer et al. 2013). Companies need tools and methods to measure possible benefits and to cope with the barriers. They need support in implementing the e-invoice processes, identifying their current situation, and prioritizing improvement. Maturity models fulfill these needs (Becker et al. 2009; de Bruin et al. 2005). The