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“Competition, Business Risk, and IT Security Outsourcing”
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Abstract

Information security management is becoming a more critical and simultaneously a challenging function for many firms. Even though many security managers are skeptical about outsourcing of IT security, others have cited reasons that are used for outsourcing of traditional IT functions for why security outsourcing is likely to increase. In this paper, we offer a novel explanation, based on competitive externalities associated with IT security, for firms' decisions to outsource IT security. We show that if competitive externalities are ignored, then a firm will outsource security if and only if the MSSP offers a quality (or a cost) advantage over in-house operations, which is consistent with the traditional explanation for security outsourcing. However, if the competitive externalities are accounted for, then firms may outsource even when the MSSP offers a lower quality than in-house operations. Nevertheless, an improvement in MSSP quality leads to more outsourcing. We show that a firm's security outsourcing decision depends critically on the interaction of the quality of the managed security service provider (MSSP) relative to in-house security management, the type of service offered by MSSP, and the reward-to-risk ratio which is the ratio of the net reward non-breached firm obtains from competitor's breach to the net loss the breached firm incurs when the competitor is not breached and it depends on the breach severity and the industry characteristics such as price competition, industry size and spillover. We believe that the IT security outsourcing decision is a strategic one in which a firm should consider the ramifications of the competitor's action on its payoff and vice versa.

Asunur Cezar received a B.S. degree in Computer Engineering and an M.S. degree in Financial Engineering from Bogazici University. She got another M.S. degree in Supply Chain Management from the University of Texas at Dallas. She is currently working toward a Ph.D. degree in Management Science at the University of Texas at Dallas. Her research interests focus on economics of privacy and security, IT security outsourcing and decision making under adversarial classification contexts. She has also empirical works investigating the effect of information technology investments on organization risk and productivity. Having more than eight years of experience in IT industry, she has participated in the design, development and launch of leading-edge technology solutions for critical business processes.