Entitled to Be Served: Does Self-Checkout Make Customers Feel Less Rewarded?

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Does Self-Checkout Make Customers Feel Less Rewarded?

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ABSTRACT

The adoption of self-service technologies (SST) has been rising over the last few years, and among different SSTs, self-checkout systems are one of the most popular options. In this study, we examine how self-checkout service impacts customers' shopping outcomes compared to regular checkout service. We propose that self-checkout (vs. regular checkout) systems, would make customers feel less rewarded and less satisfied with their purchases. We conducted four studies to test our hypotheses and showed that self-checkout (vs. regular checkout) service makes customers feel less rewarded, less satisfied with their shopping outcomes, and less likely to return to the store. We further demonstrate that customers' sense of entitlement to be served and their perceived saved effort during the checkout process parallelly mediate these effects. Lastly, we demonstrate that the number of items purchased during a shopping trip moderates the indirect effect through perceived saved effort during a checkout process.

EXTENDED ABSTRACT

Retailers have been adopting a variety of self-service technologies (SSTs) (Orel and Kara, 2014) in recent years, among which, self-checkout systems are one of the most popular services. Self-checkout systems clearly save overhead costs for companies and make the checkout process more efficient. Although the benefits of employing self-checkout have been discussed extensively in both academia and industry, the pitfalls are rather understudied. In other words, would self-checkout service be always more beneficial for retailers than regular checkout? In this project, we investigate how self-checkout (vs. regular checkout) service influences customer perception of their shopping outcomes.

We propose that self-checkout (vs. regular checkout) systems, would make customers feel less rewarded and less satisfied with their purchases. There are two reasons underlying our proposition. First, we argue that the extra effort involved in self-checkout negates customers' perceived rewards. Perceived reward is important in marketing because rewards have a positive impact on customer loyalty (Meyer-Waarden 2007) that often leads to various benefits for companies (Raman 1999; Rowley 2005; Bowen and Chen 2001). Based on the "Effort Discounting Theory" (Mitchell 2003; Ostaszewski, Bąbel, and Swebodziński 2013), the subjective value of rewards would decrease as the effort required to obtain the rewards increases. In the light of this theory, several studies have examined the effect of physical effort on

perceived reward value and found that people devalue rewards associated with physical effort (Mitchell 1999, 2004; Prévost et al. 2010; Sugiwaka and Okouchi 2004). Furthermore, Oliver and Swan (1989) stated that in an equitable exchange, the more effort individuals exert, the more outcome they expect in return. Therefore, we propose that the extra physical effort that customers exert during self-checkout would negate customers' perceived rewards. As a result, self-checkout (vs. regular checkout) systems would make customers feel less rewarded and satisfied with their purchases because of the extra effort involved.

The second reason why self-checkout might negatively impact customer experience is customer entitlement. For example, Reczek, Haws, and Summers (2014) demonstrate that loyal customers who have invested effort with a firm feel that they deserve a reward and therefore believe they are more likely to receive rewards from the firm, even when the rewards in question are randomly determined and not tied to effort. This concept is also known as "Customer Entitlement" that suggests customers often feel they are entitled and deserve special treatments. Furthermore, it was found that customers often expect special treatment even without equivalent effort or any kind of effort on their part (Boys and Helms 2005; Fisk and Neville 2011). According to these findings, we propose that during self-checkout, the extra works customers perform might trigger their sense of entitlement. As self-checkout customers do not receive cashier's help as regular checkout customers, they might think they deserve comparatively more rewards and better shopping outcomes because of the extra expended effort on their side. This may result in an unsatisfactory shopping experience when the rewards received will not meet customers' expectations. Thus, we believe customers' sense of entitlement may have a negative impact on shopping outcomes.

In sum, when customers use self-checkout (vs. regular checkout), the extra effort involved will lower their perceived reward and overall experience. Moreover, customers' sense of entitlement will reduce their satisfaction and make them devalue the perceived reward. Also, another factor that often drives customers' choice of the checkout system is the number of items they purchase. Many major retail chains advise shoppers to use the self-checkout stations if they have a limited number of items. Therefore, we speculate that the effect of self-checkout (vs. regular checkout) on customers' shopping experience will be moderated by the number of items they purchase. Specifically, if the number of purchased items is very low, self-checkout customers will not feel that they are exerting significantly more effort than regular checkout customers during the checkout process. Hence, the effect of checkout type on shopping outcome will be lessened. We conducted four studies so far to test our hypothesis. The studies establish the basic main effects, and also the mediation and moderation effects.

Study 1 (Mturk, N = 279) was correlational where participants indicated which checkout system they used in their most recent grocery shopping trip, and answered questions about their experience during that shopping trip. It was found that compared to self-checkout customers, customers who used regular checkout felt more rewarded by their savings ($M_{regular} = 4.69$ vs. $M_{self} = 4.24$; $p < .05$), and believed that they were treated as a more valuable customer by the store ($M_{regular} = 5.79$ vs. $M_{self} = 5.37$; $p < .01$). There was also preliminary evidence of the process of the effect where regular checkout customers thought (more than self-checkout customers) that the extra work involved in self-checkout process offsets the value they received from shopping ($M_{regular} = 3.77$ vs. $M_{self} = 3.04$; $p < 0.01$).

In Study 2 (N = 180), we manipulated checkout style by randomly assigning undergraduate students to imagine using either regular or self-checkout during a grocery shopping trip. Participants were told that they received rewards and made some savings during this shopping trip where they purchased 15 items. We showed them a screen displaying the price of some of the items and the savings they made. We subsequently asked about their shopping experience. We replicated the effects from Study 1 and found that regular checkout customers felt more rewarded by their savings ($M_{regular}$ = 4.35 vs. M_{self} = 3.94; $p < .01$), and were more willing to come back to the store ($M_{regular}$ = 5.13 vs. M_{self} = 4.33; $p < .01$) compared to self-checkout customers.

We conducted Study 3 during the COVID-19 pandemic. The purpose of this study is twofold. The first is to see whether the effect persists given that consumers' grocery shopping behavior changed a lot during the pandemic. The second is to examine the mechanisms underlying the checkout type effect. Two hundred and forty MTurk participants were randomly assigned to imagine going for grocery shopping during the pandemic and using either regular or self-checkout. We asked the participants about their shopping experience as in Study 2. We also measured the underlying process by asking them to what extent they think they received the service they think they deserved and were entitled to, and how much effort they think they saved during the checkout process. We first replicated the main effects of previous studies and found that regular checkout (vs. self-checkout) customers felt more rewarded, ($M_{regular}$ = 5.28 vs. M_{self} = 4.87; $p < .05$), were more willing to come back to the store ($M_{regular}$ = 6.01 vs. M_{self} = 5.73; $p < .05$), and thought they were treated as a more valuable customer ($M_{regular}$ = 5.39 vs. M_{self} = 4.98; $p < .01$). We further found that customers' sense of entitlement, and their perception of how much effort they saved during the checkout parallelly mediate these main effects. Specifically, self-checkout (vs. regular checkout) had a negative indirect effect on how much rewarded the participants felt through entitlement (ab = -0.39, SE = 0.09, 95% confidence interval, [-0.64, -0.19]) and their perceived saved effort (ab = -0.24, SE = 0.09, 95% confidence interval, [-0.42, -0.75]). We also found similar negative indirect effects through entitlement (ab = -0.47, SE = 0.09, 95% confidence interval, [-0.67, -0.29]) and perceived saved effort (ab = -0.12, SE = 0.06, 95% confidence interval, [-0.24, -0.01] on participants' willingness to come back to the store. Lastly, self-checkout (vs. regular checkout) had a negative indirect effect on how much customers think they were treated as a valuable customer as well through customers' entitlement (ab = -0.42, SE = 0.09, 95% confidence interval, [-0.62, -0.26]) and perceived saved effort (ab = -0.24, SE = 0.07, 95% confidence interval, [-0.38, -0.12]).

In Study 4, we examined whether the number of items purchased moderates the checkout type effect. Four hundred and twenty-three MTurk participants were asked to imagine going for grocery shopping and were randomly assigned to one of the four conditions (2 (regular vs. self-checkout) x 2 (18 vs. 6 items)). We asked the participants the same questions as in Study 3. We replicated the main effects for the more-items conditions and found that regular checkout (vs. self-checkout) customers felt more rewarded, ($M_{regular}$ = 5.49 vs. M_{self} = 4.95; $p < .01$), were more willing to come back to the store ($M_{regular}$ = 5.92 vs. M_{self} = 5.68; $p < .1$), and thought they were treated as a more valuable customer ($M_{regular}$ = 5.53 vs. M_{self} = 5.11; $p < .01$). However, for low-number condition where people imagined purchasing six items, the effect of checkout type was not significant. We further found a moderated mediation effect where self-checkout (vs. regular checkout) had a negative significant indirect effect on how much rewarded the participants felt

through perceived saved effort when they purchased a high-number of items (ab = -0.44, SE = 0.09, 95% confidence interval, [-0.63, -0.27]), however, the effect was not significant when they purchased a low-number of items (ab = -0.18, SE = 0.09, 95% confidence interval, [-0.37, 0.01]). The 95% confidence interval for the index of moderated mediation did not contain zero (b = 0.26, SE = 0.13, 95% confidence interval, [0.01, 0.53]). We found similar negative indirect effects through perceived saved effort on participants' willingness to come back to the store (more items: ab = -0.29, SE = 0.07, 95% confidence interval, [-0.43, -0.16]; fewer items: ab = -0.12, SE = 0.06, 95% confidence interval, [-0.24, 0.01]; index of moderated mediation: b = 0.18, SE = 0.09, 95% confidence interval, [0.0, 0.36]), and how much customers think they were treated as a valuable customer (more items: ab = -0.42, SE = 0.09, 95% confidence interval, [-0.59, -0.25]; fewer items: ab = -0.17, SE = 0.09, 95% confidence interval, [-0.36, 0.01]; index of moderated mediation: b = 0.25, SE = 0.13, 95% confidence interval, [0.0, 0.49]). In sum, the results show that the number of items purchased only moderate the indirect main effects through perceived saved effort. We did not find the same indirect effects when customers' sense of entitlement was served as a mediator. We thought this happens because when customers purchase a lot of items, regular checkout helps most through reducing efforts instead of satisfying customers' need to be served. Also, the customer entitlement literature claims that how much effort customers are expending does not necessarily predict how much entitled they feel. Therefore, it is possible that the mediating effect of entitlement is not influenced by the number of items purchased.

In summary, we found that customers using self-checkout (vs. regular checkout) feel less rewarded, feel to a less extent that they are treated as a valuable customer, and are less likely to return to the store. These effects are caused by perceived customer entitlement and the extra effort involved in self-checkout. Also, the indirect effect caused by customers' perceived saved effort is moderated by the number of items they purchase. In the future, we want to further explore the mediation and other moderating processes involved in our effects.

This research makes both theoretical and practical contributions. Existing research on SSTs underscores various benefits of installing self-checkouts including speed, ease of use, limited personal contact, cost reduction, increased value, and improved customer satisfaction (Dabholkar 1996; Lee, Fairhurst, and Cho 2013; Orel and Kara 2014; Weijters et al. 2007; Zhu et al. 2007). However, so far, to our knowledge, no formal research investigated the pitfalls of using self-checkout in comparison with regular checkout in a systematic way. Hence, we believe this research will provide some novel and distinctive theoretical contribution to existing body of literature. Additionally, this study could provide implications for retailers regarding how to manage their checkout system to entail positive customer experience. In specific, as many retail chains have been installing self-service checkouts, others have been removing them (Herubin 2003, Kukec 2013; Luna 2016; Hudson and Zimmerman 2007; Williams 2015). We believe the findings of this research will help retailers resolve some of those dilemmas. Retail stores can use these findings to manage their checkout system effectively so that they can provide their customers with a better shopping experience.

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