

# **Is affective well-being important for self-service encounters? An empirical study considering the role of task complexity and knowledge**

## **Abstract:**

The demand for self-service technologies is amplified with the fast pace life demanding customers to participate for the services extended to them as a part of cocreation. Hence, customers spent a large amount of time participating in service offerings and interacting with service employees and the servicescape leading to an experience that is likely to influence their affective well-being of a customer that considers the affective aspect of the customers' well-being. The current study attempts to understand the role played by affective well-being related to the task in the service encounter that the customers expected to do. The study also considers the important intervention of the knowledge of the customer and the complexity of the task. The study was conducted on shoppers of supermarket on their self-checkout experience in Australia. Findings suggest the mediation role of task related affective well-being with significant moderation effect of customer knowledge and task complexity.

*Keywords: self-service, task-related affective well-being, customer participation*

*Track: Services Marketing*

## **1. Introduction**

Customer participation (CP) in a service encounter is gaining a lot of attention in the current service environment where the service providers are extending a major portion of production and delivery towards the customers with the aid of technology facilitated transactions. In quest of higher productivity and better service to the customers at a lesser cost, organizations are moving towards self-service technologies where higher levels of CP becomes necessary to complete the service. CP refers the degree to which customers contributes to the production and delivery of the service by providing information, sharing information, making suggestions and other resources (Dabholkar, 1990; Chan, Yim and Lam, 2010). The term “customer participation” and the related terminologies were widely used across marketing and associated disciplines.

At the outset, participation by a customer in the service encounter comes with an influence in the emotion and moods of a customer. Based on the knowledge of the customer about the task and the complexity of the task, participation will have an impact on the customers’ affective well-being portrayed as positive and negative experiences. The current study focusses on the influence of positive and negative affect on the well-being of the customer based on the task assigned to them during service encounter. This study considers the affective well-being based on the task the customer needs to execute while participating in service encounter, we consider it as task-related affective well-being (TrAWB). Thus, there is an imperative need for a comprehensive understanding of the influence of CP on the customers’ TrAWB. The study also focusses to understand whether TrAWB mediates the influence of CP on perceived service quality (PSQ) and customer satisfaction (SAT). In addition, the study considers the effect of intervening variables – customer knowledge (CK) and task complexity (TC) in the relation. Hence the objectives of the study are as follows:

- a) To understand the influence of CP on TrAWB
- b) To examine the mediation role of TrAWB in the influence of CP on PSQ and SAT
- c) To study the moderation role of CK and TC

## **2. Theoretical Background and Hypotheses Development**

While literature on CP draws upon several theoretical foundations (e.g. Chen, 2018, Dong, 2015; Dong, Sivakumar, Evans and Zou, 2015), we ground our research in socio-technical systems theory (Pasmore, 1988). The term “sociotechnical systems” was coined by Trist (Trist and Bamforth, 1951; Trist, Higgin, Murray and Pullock, 1963) who viewed

organization from the perspective of the interrelatedness between social and technical subsystems in relation to their operational environments. Hence, organizations comprise of people who operate some technology to produce services where the action of the people and appropriateness of technology affects the operation. Pasmore (1988) argued that organization “will function optimally only if the social and technical systems of the organization are designed to fit the demands of each other and the environment” (p. 1182). The demands include the service provider performance and service delivery outcomes focussed to fulfil the customer needs. In the context of service providers, they adopt various types of participation to better serve the customer during service delivery. We suggest that the socio-technical systems perspective gives clarity to understand the impact of participation types, customer knowledge, and task complexity on customer’s affective well-being and various service outcomes through the interplay between the technical and social systems in the service environment. Socio-technical systems theory is appropriate in the current study due to the underpinning principle, that both social and technical systems in an organization works together to produce desirable outcome to both service providers and customers.

The social subsystem of the organization comprises of people working in the organization and their interrelationships. However, when a customer participates in a service encounter, they assume the roles of employees in producing the service forming the social subsystem. The technical subsystem comprises of the tools, techniques, skills, procedures, and technology that enables the actors of social system to accomplish their task. Hence, the socio-technical systems theory helps to explain how CP adopted by the service provider influence the TrAWB of the customer and improved performance outcomes such as PSQ and SAT integrating technology, people and the environment. It also forms the basis to understand the intervening role of CK and TC in creating favourable outcomes.

Dong et al. (2015) empirically tested the influence of CP on PSQ and SAT. The current study attempts to understand the influence of CP on PSQ and SAT in a self-service service encounter. Asokan Ajitha, Sharma, Kingshott, Maurya and Kaur (2019) conceptualized the mediating role of TrAWB in the influence of CP on various service outcomes. The current study combines both the literature to come up with testable hypotheses. Well-being embraces the concept of psychological needs (Ryan and Deci, 2000) constituted of autonomy, competence, and relatedness. Self-determination theory (SDT) supports the influence of CP on TrAWB. According to Ryan and Deci (2000), SDT identified innate psychological needs that upon satisfying/thwarting can enhance or diminish

motivation, mental health, and well-being. When the customer participates, they feel a sense of autonomy, competence, and relatedness influencing their well-being.

The information hence processed from the well-being of the customer helps in making the judgement (Schwarz, 2012). Feelings as information theory (FIT) is one of the most influential explanations for the cognitive consequences of the affect and FIT focus on the role of experience, cognitive and somatic components of feelings in making a judgement. The process of participation of customers in a service encounter helps to process their feelings of well-being in making the judgment. The study considers the support of FIT to explain the linkage of TrAWB on PSQ and SAT. Introducing TrAWB as a mediator in consumer research is a major contribution because it looks beyond the more commonly displayed roles of AWB as an antecedent or an outcome. Therefore, the study assumes the mediating role of TrAWB in the influence of CP on PSQ and SAT and we hypothesize:

*H1: (a) CP positively influence TrAWB (b) TrAWB mediates the positive influence of CP on PSQ and SAT.*

Customer knowledge is a customer related factor and is defined as the perceived knowledge of the customer regarding the service encountered enabling them to participate effectively (Chiou, Droge and Hanvanich, 2002; Meuter et al., 2005). Bowen (1986) explains ways to improve customer participation by providing more awareness or knowledge from a human resource perspective. Based on the self-efficacy theory, better knowledge about the service will enhance the customer's beliefs in their innate ability to process and achieve the goal (Bandura, 1977). Also, the strength of the relationship that CP has on TrAWB and service outcome will be moderated by CK (high vs. low) based on the elaboration likelihood model (Petty and Cacioppo, 1986). When the CK is high, the processing of knowledge is likely to take place by central route, and if the knowledge regarding service is low, the processing will take a peripheral route and hence reduce the strength of relationships. Hence, we hypothesize:

*H2: (a) CK has a positive effect on PSQ and SAT; CK positively moderates the (b) influence of CP on PSQ and SAT, (c) influence of CP on TrAWB.*

The complexity of the task may influence their participation resulting in an impact on service outcome. Task complexity is defined as the degree of difficulty of a task based on the characteristics of the task such as the psychological experience of the customer and customer-task interaction (Campbell, 1988). According to social cognitive theory (Bandura, 1977), the

customer may choose a simple task over a complex task. High task complexity will make the CP difficult compared to low task complexity (Wood, 1986). Hence, we hypothesize:

*H2*: (a) TC has a negative effect on PSQ and SAT; TC negatively moderates the (b) influence of CP on PSQ and SAT, (c) influence of CP on TrAWB, (d) influence of TrAWB on PSQ and SAT.

Based on the theoretical underpinning and literature background, it is important to understand the interrelationships of the constructs as shown in the framework (Figure 1).

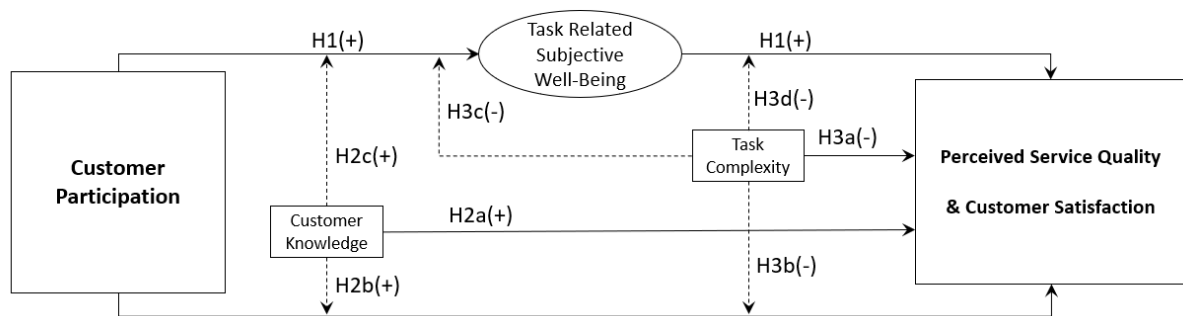


Figure 1. Theoretical Model

### 3. Research Method

The study considers self-checkouts at supermarkets and collected data from 396 online panel respondents from Australia spanning across age, 21-80 years old who shop themselves from the supermarkets. The study uses a structured questionnaire to capture the responses. Measures for all the constructs were adapted to our context from well-established scales using a seven-point Likert format. The study uses multiple moderated mediated regression to analyse the data received. The final set of data were tested for the proposed hypotheses using appropriate statistical tools in SPSS and AMOS.

### 4. Data Analyses

The study comprised of 51.5% male and 48.5% female respondents. 66.9% of respondents fall within the age group of 21 to 50, 21.7% of the respondents fall within the age group of 51 to 70, 6.6% respondents fall above 70 years of age and the rest below 21 years of age (4.8%). Confirmatory factor analysis was employed to assess measurement model for reliability and validity of all decision constructs using AMOS 20.0 software. The measurement model shows a good fit ( $\chi^2 = 202.67$ ,  $df = 105$ ,  $\chi^2/df = 1.93$ ,  $RMSEA = 0.05$ ,  $PCLOSE = 0.58$ ,  $SRMR = 0.04$ ,  $GFI = 0.94$ ,  $CFI = 0.97$ ,  $NFI = 0.95$ ,  $RFI = 0.94$ ,  $IFI = 0.98$ ,

TLI = 0.97) with all the fit indices better than the cut-off values recommended by Hooper, Coughlan and Mullen (2008) and Hu and Bentler (1999).

	CR	AVE	MSV	MaxR(H)		CR	AVE	MSV	MaxR(H)
<b>PSQ</b>	0.913	0.778	0.543	0.915	<b>SAT</b>	0.940	0.840	0.702	0.942
<b>TrAWB</b>	0.834	0.562	0.085	0.861	<b>TrAWB</b>	0.835	0.562	0.086	0.862
<b>CK</b>	0.911	0.836	0.543	0.916	<b>CK</b>	0.911	0.836	0.702	0.918
<b>TC</b>	0.837	0.633	0.026	0.854	<b>TC</b>	0.837	0.632	0.026	0.853
<b>CP</b>	0.884	0.720	0.099	0.913	<b>CP</b>	0.884	0.720	0.138	0.913

Table 1 Reliability and Validity Results from Measurement Model

Table 1 shows that the CR values and MaxR(H) values for every construct were greater than 0.70 confirming reliability of all constructs. The indicators/items have statistically significant factor loadings and AVE was found to be greater than 0.50 establishing convergent validity. AVE was found to be greater than MSV and the square root of AVE was found to be greater than the off-diagonal elements across the row and down the column establishing discriminant validity at the construct level. Hence, the measurement model provided evidence for reliability and validity of the constructs and the constructs could be employed for hypotheses testing using structural model.

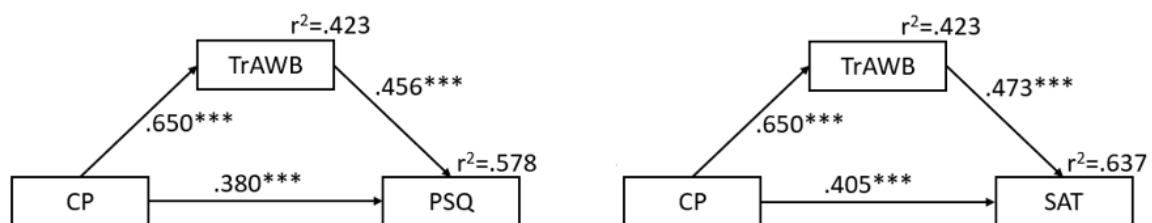


Figure 2. Mediation Role

Mediation relationship exist when there exist at least one mediator intervening between predictor and outcome variable which affects the relationship (Baron and Kenny, 1986). The study followed Zhao, Lynch and Chen's (2010) specification for establishing mediation after Preacher and Hayes' (2004) bootstrapping procedure. The mediation role of TrAWB in the influence of CP on PSQ and SAT are presented in Figure 2. In accordance with Zhao et al. (2010), the direct and indirect effects were used to represent the mediation effect. If the indirect path  $a \times b$  is significant and the direct path  $c$  is significant, then the product  $a \times b \times c$  is checked for its sign. Since all the effects are positive, the result concludes the mediation to be complementary mediation in the current study. Thus, CP positively influence TrAWB, also TrAWB mediates the influence of CP on PSQ and SAT (H1 supported).

The structural model for PSQ shows a good fit ( $\chi^2 = 0.57$ ,  $df = 1$ ,  $\chi^2/df = 0.57$ , RMSEA = 0.01, PCLOSE = 0.63, SRMR = 0.002, GFI = 1.00, CFI = 1.00, NFI = 1.00, RFI = 0.99, IFI = 1.00, TLI = 1.00) and the structural model for SAT shows a good fit ( $\chi^2 = 1.84$ ,  $df = 1$ ,  $\chi^2/df = 1.87$ , RMSEA = 0.04, PCLOSE = 0.37, SRMR = 0.004, GFI = 0.99, CFI = 1.00, NFI = 0.99, RFI = 0.97, IFI = 1.00, TLI = 0.99) for with all the fit indices better than the cut-off values recommended by Hooper et al. (2008) and Hu and Bentler (1999). The structural model with regression weights coefficients are presented in Figure 3 (H2 & H3 supported).

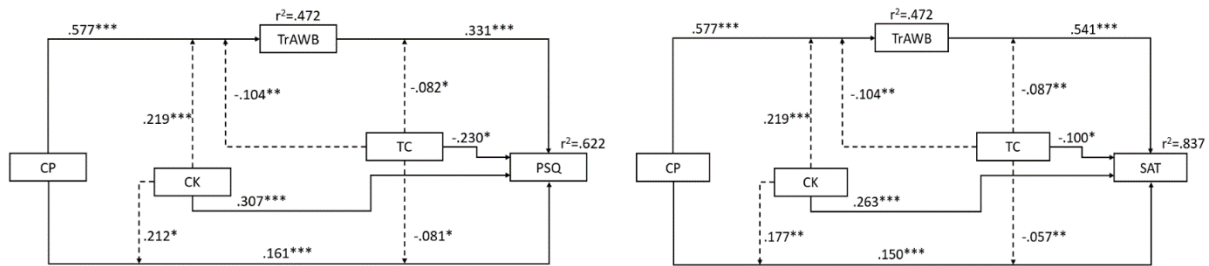


Figure 3. Structural Models

## 5. Discussion

All the hypotheses proposed were supported with significant direct and indirect effects. The study empirically tested the influence of CP on TrAWB and the mediating role of TrAWB. The results suggest the positive impact of CP on TrAWB and found that there is complementary mediation of TrAWB in the influence of CP on PSQ and SAT. This confirms that when customer participates in a service encounter, there is an influence on the customers' affective well-being and this in turn is influencing PSQ and SAT. Hence, it could be considered as an important factor in every service encounter and our study contributes to the domain of transformative services research which attempts to understand the well-being of the customer in service encounters. Mediation role of TrAWB in the relationship between CP and customer outcomes is a contribution to the CP literature. The mediation effect was conceptualized using self-determination theory and feelings as information theory thus contributing to both the theories. This paper simultaneously investigates the mediating role of TrAWB as well as the moderating role of CK and TC on the link between customer participation and the identified customer outcomes.

The inclusion of customer knowledge and task complexity as moderators helps to extend the customer participation and wellbeing literatures. Although existing literature has depicted moderators in that relationship between CP and various outcomes such as PSQ and

SAT, this study is the first to test the role that customer knowledge and task complexity plays. Moreover, the study also considers the moderating role of customer knowledge and task complexity in the mediated path comprising the customer participation – TrAWB – customer outcome relationship. The conceptualizing of relationship was based on self-efficacy theory, elaboration likelihood model and social cognitive theory as presented in the work by Asokan Ajitha et al. (2019). The result found in the study are in consensus with the theory used. Hence, the moderators are contributed to CP and well-being literature. In addition, contribution is made in CK and TC literature based on the theories as they were not associated with CP and well-being literature.

Like any study of this kind, the learnings we share poses several potential managerial implications and some of these are now discussed prior to suggesting limitations and directions for future research. The study contributes to managers understanding of how CP and well-being potentially impacts their service operations by providing several useful insights. Since we highlight the central importance of TrAWB in the services context and its influence on PSQ and SAT, decision makers need to be cognisant of the service conditions leading to improved/diminished wellbeing. Hence, service providers need to understand the issues faced by the customers and the steps involved which put them in their comfort zone while they are in service encounter. This could give a better clarity to the service organization to ensure the customers' TrAWB is improved. In addition, the current study considers two moderators to the influence of CP on TrAWB hence giving an understanding on the intervening variables.

Since we reveal that CK and TC has both a direct and indirect impact on PSQ and SAT and both aspects must be factored into the service design. Clearly, if the operation is too complex when customers are expected to participate then this will negatively impact their views in relation to various outcomes of the service. Service organizations therefore need to ensure tasks are not complex, and in the very least ensure service staff are available during the service encounter to monitor the customers and help educate them on what to do. This is particularly critical when new services and participation tasks are being introduced into the operation. Furthermore, strategies must be employed that help improve CK about how they can participate in the service encounter and the benefits their participation would provide.

Despite the several contributions, our research also has some limitations. First, the study was conducted in a single context, it could be extended to other contexts to check if it is applicable



across context. Since TrAWB is the focal construct, there could be significant difference across culture, and this could even be captured in future studies. TrAWB is applied in one service encounter in the study, maybe it is applicable in various other encounters, also with many other variables in different service encounters. Future studies could consider introducing TrAWB in existing services models to examine its importance. Future studies could consider positive moderators that could reverse the negative effects of TrAWB thus providing a good service experience.

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