



**Tomas Bata University in Zlín**  
**Faculty of Management and Economics**

Doctoral Thesis

**Influence of Cognitive Factors on Consumers' Price  
Fairness Perceptions, Behavioural Loyalty, and  
Purchase Intention**

**Vliv kognitivních faktorů na spotřebitelské vnímání spravedlivě  
stanovené ceny, loajální chování a nákupní záměr**

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Full text of the doctoral thesis is available in the Library of TBU in Zlín.

*I dedicate this thesis to*

*Baba and Ayan*

*for their unconditional love and constant support.*

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## ABSTRACT

Fair pricing is a standard expectation from consumers' side; they are particularly sensitive toward unacceptable/unfair price increases. Also, perceived price fairness is important to firms because it is connected with several negative as well as positive consequences, including willingness to pay, purchase intentions, complaint behaviour, viva voce, switching propensity, brand attitudes-relationships, along businesses' profit-earning ability. Marketers and managers involved in business-trade should endeavour to understand factors leading to price unfairness perceptions in an attempt to mitigate negative outcomes. Perceiving prices as fair promote purchase intention as well as behavioural loyalty, whereas perceiving prices as unfair reduce purchase intention and behavioural loyalty. Comprehension of the causal cognitive way that moulds perceptions of fairness is vital. It could abet mitigating negative consequences triggered by perceptions of unfairness and enhance the companies competing ability. This doctoral dissertation targeted to fill a void in extant literature by investigating a unique, unexplored but vital topic of interconnections among perceived price fairness, behavioural loyalty, buying intention, and cognitive attribution together with cognitive factors. The main objective of the doctoral thesis is to determine and expand the knowledge of the influence of cognitive factors on consumers' attributional tendencies, perceptions and reactions. Precisely, this dissertation attempts to - i) provide further evidence for the influence of cognitive factors (thinking styles and need for closure) on consumer perceptions and reactions from an attributional perspective; ii) extend the limited consumer research on thinking styles and need for closure; iii) better understand the specific influence cognitive factors have on consumer perceptions and reactions; iv) learn more about the nature of the consumer attribution, perception and reaction making process by predicting differences based on cognitive variables. The quantitative experimental research method was adopted to attain specific objectives of the dissertation. The developed hypotheses based on theoretical background and objectives were examined with 5 experimental studies. The experimental data were analysed with the help of specific statistical software: G\*Power and SPSS. Findings revealed price fairness perceptions, behavioural loyalty, purchase intention, and cognitive attribution vary among analytic and holistic thinkers. Likewise, differences pertaining to the variables also persist among high as well as low need for closure individuals. Each of two cognitive facets exhibits significant effect on all the variables. Cognitive attribution with perceived price fairness play the role of serial mediators in the causal chain between cognitive factors and behavioural loyalty as well as purchase intention. Moreover, findings also revealed cultural

thinking styles variations induce the price fairness perceptions, behavioural loyalty, purchase intention, and cognitive attribution variances. From theory to practice, the dissertation has its contributions in marketing, behavioural pricing, consumer psychology-behaviour, and sales. Results and findings of this research add significant aspects to the existing thoughts and theories in the context of cognitive processes behind price fairness perception, behavioural loyalty, and purchase intention. The inferred strategies will be helpful for practitioners in maintaining consumers' positive fairness perception pertaining to price, behavioural loyalty, buying intention as well as gaining competitive edge. Thus, the businesses competing ability as well as commercial return will enhance.

## ABSTRAKT

Spravedlivé ceny jsou standardním očekáváním ze strany spotřebitelů; zákazníci jsou obzvláště citliví na zvýšení ceny, kterou považují za nespravedlivou nebo nepřijatelnou. Jaké je vnímání spravedlivě stanovené ceny důležité rovněž pro marketéry a manažery, protože je spojeno s různými negativními a pozitivními výsledky, včetně ochoty cenu zaplatit, dále nákupními záměry, chováním při podávání stížností, chováním ovlivněným word-of-mouth, změnami chování, vztahovými postoji ke značkám a ziskovostí firmy. Marketéři a manažeři zapojení do obchodu, ve snaze zmírnit negativní důsledky, by se měli snažit porozumět faktorům, které vedou k tomu, jak je vnímána cenová nespravedlnost. Vnímání cen jako spravedlivé podporuje nákupní záměry i loajální chování, zatímco vnímání cen jako nespravedlivé, snižuje nákupní záměry a loajální chování spotřebitelů. Pochopení příčin kognitivního myšlení, který formuje vnímání spravedlnosti, je důležité; mohlo by přispět ke zmírnění negativních důsledků vyvolaných vnímáním nespravedlnosti a posílit konkurenceschopnost společností. Tato disertační práce si kladla za cíl, zaplnit prázdnotu v existující literatuře zkoumáním jedinečného, neprobádaného, ale zásadního tématu, propojení mezi vnímáním spravedlivé ceny, behaviorální loajalitou, nákupním záměrem a kognitivní atribucí, spolu s kognitivními faktory. Hlavním cílem disertační práce je determinovat a rozšířit znalosti o vlivu kognitivních faktorů na atribuční tendence, percepce a reakce spotřebitelů. Právě proto se tato disertační práce pokouší - i) poskytnout další důkazy o vlivu kognitivních faktorů (styly myšlení a potřeba dokončení) na vnímání a reakce spotřebitelů z perspektivy atribuce; ii) rozšířit limity výzkumu spotřebitelů o stylech myšlení a potřebě dokončení; iii) lépe porozumět specifickému vlivu kognitivních faktorů na vnímání a reakce spotřebitelů; iv) dozvědět se více o povaze spotřebitelské atribuce, vnímání a procesu vytváření reakcí předpovídáním rozdílů na základě kognitivních proměnných. K dosažení konkrétních cílů disertační práce byla přijata metoda kvantitativního experimentálního výzkumu. Hypotézy vzešly z teoretických základů a stanovených cílů, a byly zkoumány pomocí 5 experimentálních studií. Experimentální data byla analyzována pomocí specifického statistického softwaru: G\*Power a SPSS. Zjištění odhalila, že vnímání cenové spravedlivosti, loajální chování, nákupní záměry a kognitivní atribuce se mezi analytickými a holistickými mysliteli liší. Stejně tak rozdíly týkající se proměnných přetrvávají mezi vysokou i nízkou potřebou uzavření jedinců. Stejně tak rozdíly týkající se proměnných přetrvávají mezi vysokou i nízkou potřebou uzavřených jedinců. Každý ze dvou kognitivních aspektů vykazuje významný vliv na všechny proměnné. Kognitivní atribuce s vnímáním cenové spravedlnosti, hrají roli řadových mediátorů, v kauzálním řetězci mezi kognitivními faktory a behaviorální loajalitou, a rovněž záměrem nákupu. Kromě toho zjištění také odhalila, že varianty kulturních

stylů myšlení vyvolávají rozdíly ve vnímání cenové spravedlnosti, loajálního chování, záměru nákupu a kognitivní atribuce. Od teorie k praxi má disertační práce své přínosy v oblasti marketingu, behaviorálních cen, spotřebitelské psychologie-chování a prodeje. Teoretické výsledky disertační práce mají rovněž přínos do praxe v oblasti marketingu, behaviorálních cen, spotřebitelské psychologie-chování a prodeje. Výsledky a zjištění tohoto výzkumu přidávají významné aspekty k existujícím myšlenkám a teoriím v kontextu kognitivních procesů, které stojí za vnímáním spravedlivé ceny, behaviorální loajalitou a nákupními záměry. Strategie odvozené od těchto výsledků, budou pro praktiky nápomocné při udržování spotřebitelského pozitivního vnímání spravedlnosti, pokud jde o cenu, loajálního chování, nákupních záměrů, a také pro získání konkurenční výhody. Zvýší se tak konkurenceschopnost podniků a zlepšení obchodování.



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## ABBREVIATIONS

Confidence interval	CI
Dependent variable	DI
Indirect effect	IE
Independent variable	IV
Lower bound	LB
Mean	M
Difference in means	MD
Sample	$n$
Main objective	OBJ
Statistically significant	$p < .05$
The attained level of significance	$p$ -value
Main research question	RQ
Standard deviation	SD
Standard error	SE
Sub-objective	SOBJ
Sub-research questions	SRQ
Upper bound	UB

# 1. INTRODUCTION

Businesses make massive investments in the direction of creating positive links in connection with customers. Increased price circumstances, generally considered as either or both negative and unfavourable, causing unfairness perceptions could enervate those business actions. Price fairness perceptions positively shape purchaser's buying intention, loyalty, satisfaction as well as attitude (Bettray et al., 2017; Chung and Petrick, 2015; Gorondutse and Hilman, 2014; Kasiri et al., 2017; Liao et al., 2020). Then again, perceived price unfairness drives negative reactions for instance decreased buying intention, changing firm, negative verbal communication, complaint, service refusal/ sending back good (Santos et al., 2020; Xia et al., 2004). Henceforth, lessening customers' unfairness perceptions is imperative, considering the perils embroiled. Accordingly, grasping the states that underlie customers' fairness or unfairness perceptions pertaining to a price is of utilitarian worth to marketing and managerial personnel. Customers have to face a succession of cognitive phases to decide fairness pertaining to prices.

As one considers pricing merely from economic viewpoint, he/she simply considers the sold services/products charge in addition to the objective worth, or utmost the perceived worth that those services/products provided. However, considering only economic approach does not encapsulate the real picture of consumers' responses to pricing. Buyers' behaviours along with perceptions are significantly influenced by services or goods prices, thusly, from managerial perspective pricing decisions are tricky besides being crucial (Chung and Petrick, 2015). Decisions pertaining to pricing provide businesses with chances to be different from their contenders alongside the perils of customers' disgruntlement (Diller, 2008). Subjective preferences in addition to perceptions, besides economic grounds, significantly sway consumers' perception pertaining to price coupled with purchase decisions. When it comes to pricing, a crucial contribution of consumer research is the finding that the matter of price perception has equal significance in the field of psychology as it has in the economics, marketing in addition to management domains (Bolton et al., 2010; Bondos, 2015). Pricing researchers have devoted a considerable amount of research to underlying mechanisms that create unfair price perceptions. The importance of apprehending the means that instigate unfairness and fairness perception pertaining to price is equal. Price fairness determination involves a consumer undergoing cognitive activity. Apprehension of this cognitive activity is imperative from the practitioners' perspective. It stems from the largely substantiated point in literary works that lessening unfair perceptions or fabricating increases in prices to look fair brings on greater consumer loyalty as well as satisfaction (Han and Hyun, 2015; Kasiri et al., 2017).

By definition, fairness is “a judgment of whether an outcome and/or the process to reach an outcome are reasonable, acceptable, or just” (Xia, et al., 2004, p. 1). Conceptually, it is considerably intricate therefore forming verdicts related to fairness is a hard job. In literary works, several price fairness notions were devised for representing price fairness from diverse sides (Bhowmick, 2010; Chung and Petrick, 2015; Graafland, 2006; Maxwell, 2002; Pallas et al., 2017; Xia et al., 2004). According to extant literary works, fairness perceptions pertaining to price sway buyers’ behaviours. Various incidents from old to recent can be put forward to illustrate the significance of fairness perceptions pertaining to price. One recent example is a case related to the invoicing of Fortis hospital (one of the leading private hospitals in India). In 2018, based on inquiry report newspapers in India reported the incident that the aforementioned hospital had levied surpluses as far as 900% atop certain non-scheduled medications including up to 1,700% upon pharmaceutical consumables (Sharma, 2018). People throughout the country were outraged by this incident. Although customers are disposed to accept an establishment’s pursuit of gains, nevertheless each deed that purposely misuses customers’ reliance is prone to be regarded as repulsive. In Fortis hospital’s billing case, the most detrimental aspect is the sense of exploitation, whereas the money paid in absolute terms is not so important. In cases of many patients opting for such private hospitals, paying high amount of bills, such as, Rs200 (absolute value) for a syringe is not a matter of botheration. Nonetheless, a piece of information that a hospital indeed has a surplus of over 1,000% drives the case to appear excessively unfair. In defense, the management of the Fortis hospital claimed that none of the prices surpassed the utmost retail prices. In addition, their invoicing practices were similar to that espoused by different contemporary hospitals. This explanation was insufficient for many people, and Fortis hospital suffered from reputational damage in the aftermath. As the example illustrates, in many instances the issue is not about acceptance of a particular price by consumers but about having the certainty that he/she is not being cheated. Hence, organisations should be highly prudence and cautious during price setting. “Netflix lost 800,000 subscribers in three months when it passed on cost increases to customers who perceived the firm’s action as unfair” (Lu et al., 2020, p. 231). Preceding studies had exhibited that consumers evaluate particular way prices pertaining to services or goods are fixed (Ferguson et al., 2014; Garbarino and Maxwell, 2010), further shape perceptions about price fairness of services or goods (Kukar-Kinney et al., 2007; Rondan-Cataluña and Martin-Ruiz, 2011). Fairness pertaining to price literary works assert that facets like increased prices or greater prices sway fairness perceptions pertaining to prices from consumers’ perspectives.

In today’s highly competitive business world, it has become essential for any organisation to create consumers’ loyalty, which in turn is useful for generating

business profits. Contented consumers are the primary valuables for every single kind of company. The manner consumers respond anent prices, perceived price fairness represents an essential element of it. Undeniably, adverse reactions ensue once consumers sense that they are victims of unfair treatment and those price unfairness perceptions can lead to significant unfavourable effects on consumer satisfaction and consequent consumer behaviour. Customers quest details relating to services or goods, along these lines they evaluate them (Dabestani et al., 2016; Lymperopoulos et al., 2013). In this digital era, the availableness of social media, mobile applications, and internet have facilitated customers to procure vast particulars on elements of pricing, availabilities-options including juxtapositions amongst copious services or goods in an essentially simplified and speedier means. In consequence, they are extra receptive towards perceived price fairness, which in due course shapes both behavioural intentions and emotions (Lymperopoulos et al., 2013). When it comes to on-line purchasing, perceived price fairness is an essential influence that affects on-line purchasers' rate of attrition (Jiang and Sun, 2014).

In the present era, dining out in restaurants along with ordering takeout/home delivery directly from the restaurants or ordering home delivery through third-party delivery apps have become common practices among individuals-groups. In this rapidly expanding, strongly competitive and changeable food facility sector, consumers have wide quantity of restaurants possibilities to pick from and thus to gain competitive advantage in addition to be successful it is significantly imperative for restaurateurs to know the influences that drives the decision making process of selection of restaurants among consumers. Consumers' restaurant selection is often primarily based on price, food service - quality and environment. In general, it has been observed restaurant consumers with different ethnic, cultural and economic backgrounds get influenced with any price change (increase) (Shoemaker et al., 2005). Sizeable quantity of investigations have been performed in the field of customer satisfaction, loyalty and buying patterns (Lysonski, 2014; Ryu and Han, 2010). However, to have a progressive growth in the restaurant business customers' loyalty and satisfaction towards the restaurant is mandatory (Ma et al., 2014; Ryu et al., 2012). In the foodservice industry, perceived price is an important factor that determine consumer satisfaction level. For maintaining consumer satisfaction and loyalty, perceived price fairness is considered as a necessary factor in service industry. Restaurant was chosen for this research as it provides a relatively even good/service mix (Martin et al., 2009).

Nowadays, car rental services are playing a key part in the area of transportation as they bring prompt accessibilities, customers operated services, services led by demand, pricing besides adaptability (Shah and Shah, 2021). For work as well as personal uses, customers all over the world regardless of profession, culture, race, gender, and age utilise car rental facilities. Alas, since December 2019 globally

customers are encountering increased prices pertaining to car rental services. In the rapidly developing, ever-changing, and severely competitive service sector of car rentals, buyers have extensive substitute choices and hence easy to change suppliers who give services. Hence, currently it turns out to be more relevant for managers of companies that provide car rental facilities to comprehend customers' reactions towards increased prices circumstances and means to retain positive perceptions pertaining to prices, buying and rebuying intentions in order to thrive in the marketplace. The aforementioned facets contributed towards the selection of car rental as a service for the thesis.

“Coronavirus disease 2019” pandemic badly affected hotel businesses, they ameliorated together with travel businesses due to tardy trips and bottled-up demands. In comparison to before the pandemic situation, travellers have become more sensitive to price. The pandemic has put a substantial strain on the funds of travellers. They are more prone to trading off advantages that upper and mid-level hotels offer for basic ‘pay for what you need’ facilities. Budget hotels are benefiting from the condition by tendering a ‘value-for-money’ service and enticing price-sensitive clients. Budget hotels ought to inspect the price perceptions of their visitors in order to take proper decisions on pricing which would give rise to behavioural intentions that are positive in nature (el Haddad et al., 2015). Most consumers have blurred notions concerning profits, costs, and prices in the area of services, thereby this unawareness can lead to pricing policies that are unfair (Bolton et al., 2003). If guests of budget hotels are contented with the received fair prices, then they become loyal (Susanti, 2019). Visitors' fairness perceptions pertaining to prices are positively and directly correlated with their buying intentions, positive recommendations, and good “word of mouth” in hotel businesses (el Haddad et al., 2015; Tuclea et al., 2018). According to “Global Business Travel Association” and “Global Business Travel Forecast” predictions made in the year 2019 indicated that the following 2 years are expected to experience rises in prices of worldwide travel across hotels, land, and air, mainly caused due to growing demands, augmented fuel and labour costs, requirements of sustainability of travellers, and limitations of capacities. “American Express Global Business Travel” predicted that in the year 2023 rates of hotels would increase comprehensively. Hence, presently comprehending customers' reactions towards increased prices circumstances have turn out to be more relevant for managers of budget hotels. Budget hotel visitors place primary importance on prices. Price acts as an influential element in budget hotel clients' booking decision-making procedure (el Haddad et al., 2015). As upscale hotel guests generally don't possess the obtained prices evident worth judgments, thereby budget hotel as a service was chosen for this research. A budget hotel exemplifies an interesting selection since its visitors search for more fairly

priced lodging, in addition to being more cost-cognizant. The above aspects contributed towards the choice of the budget hotel as a service for the thesis.

## **1.1 Research problem**

An increase in price occurrence commonly induces multiple questions in customer's mind, for instance, willingness to purchase, behavioural loyalty, price fairness, the responsible factors kind (uncontrollable and/or controllable, internal, external), and responsible factors. This thesis proposes that customers' answers to these questions may vary subject to their cognitive need for closure and thinking styles. Despite there are previous investigations that demonstrated the relationships between price fairness perceptions, behavioural loyalty, purchase intention, cognitive attribution, need for closure, and thinking styles separately (Choi et al., 2007; Chung and Petrick, 2013; Federico et al., 2016; Kim and Hwang, 2017; Konuk, 2018; Pietrzak et al., 2014; Vaidyanathan and Aggarwal, 2003; Yoon, 2013). Nevertheless, a void in research pertaining to the existing literary works is the evidence of interrelationships between all the aforementioned variables jointly. As per considerable search of literary works, no former investigations have studied the impact of styles of thinking and need for closure on behavioural loyalty and purchase intention influenced by cognitive attribution as well as, successively price fairness perceptions. Aiming to bridge this void, present doctoral dissertation endeavours to investigate how varying thinking styles (analytic vs. holistic) and need for closure (high vs. low) will shape customers' price fairness perceptions in addition to following behavioural loyalty and purchase intention in the price rise occurrence. Giving attention to the aforesaid subject is imperative as on top of bringing to light an original promising research direction, it can as well support businesses in forming tactics to handle perceptions of unfairness, lowered behavioural loyalty, reduced buying intention in addition to achieve competitive edge.

## **1.2 Research questions**

In line with the identified gap in literature and research problem, this doctoral thesis attempts to answer the main research question (RQ).

RQ: Whether and how cognitive factors influence consumers' attributional tendencies, perceptions, and reactions?

The main research question can be divided into two sub-research questions (SRQ):

SRQ1: Whether and how styles of thinking (holistic and analytic thinking) influence perceived price fairness, behavioural loyalty, and purchase intention?

SRQ2: Whether and how the need for closure (high and low need for closure) influence perceived price fairness, behavioural loyalty, and purchase intention?



The main objective along sub-objectives of the doctoral thesis has been developed for finding out the answers of formulated research questions. For details see section 1.3.

### **1.3 Objectives**

Corresponding to the main research question, the main objective (OBJ) of this doctoral thesis is to determine and expand the knowledge of the influence of cognitive factors on consumers' attributional tendencies, perceptions and reactions. Corresponding to sub-research questions: SRQ1 and SRQ2, sub-objectives: SOBJ1 and SOBJ 2, were developed respectively.

SOBJ 1: To investigate the role of styles of thinking (holistic and analytic thinking) in influencing perceived price fairness, behavioural loyalty, and purchase intention.

SOBJ 2: To investigate the role of need for closure (low and high need for closure) in influencing perceived price fairness, behavioural loyalty, and purchase intention.

## **2. LITERATURE REVIEW**

Bearing in mind the aim of this doctoral thesis, the extant literature was reviewed on the succeeding topics.

### **2.1 Price fairness perception**

“Perceived price fairness has been the key variable employed in the pricing literature to understand the impact of price increases on consumers” (Koschate-Fischer et al., 2016, p. 610). Practically, in terms of concept fairness is intricate. Furthermore, the judgements of fairness are thought-provoking tasks. Many fairness concepts have been formed that represent price fairness in different aspects. There are theories, like, Procedural Fairness and Prospect Theory; Distributive Fairness; Equity Theory; Attribution Theory; Dual Entitlement Principle that describe price fairness from various facets (Sheikhzadeh et al., 2012). Literature suggests that consumer make comparisons for evaluating price fairness. Given price is compared by consumers with prices provided by other sellers, prices that other consumers obtained or reference prices (containing sellers’ costs, competitors’ price, and past prices) (Chung and Petrick, 2013). The aforementioned juxtapositions can result in favourable or unfavourable evaluations, which accordingly will lead consumers to consider the price as fair or unfair correspondingly (Jin et al., 2013). In shaping purchasers’ responses connected with prices, price fairness perception is recognised as one of the fundamental constituent (Reavey and Suri, 2015). Fair price can also be determined as “the global evaluation made by the consumer of the price based in comparing the current price with the acceptable prices which are determined by

social standards (reference price) and personal interest (adaptation level)” (Namkung and Jang, 2010, p. 1237).

For the reason that fairness is subject to outcomes, in that way price fairness perception is conditional on what or who is liable for those outcomes. Buyer’s response in face of an increased price lacking justifiable motive can ensue price unfairness perceptions. Increased price generated via costs or factors that are internal is perceived as less fair or more unfair compared with those caused via costs or factors that are external (Chung and Petrick, 2013; Vaidyanathan and Aggarwal, 2003). In circumstances where price rise is a compulsion for companies, informing customers about price rise situation with suitable elucidations relating to rise amount can augment fairness perceptions (Rothenberger and others, 2015). In the present times ever-shifting market appertaining to incessant changing prices, consumers can eventually culminate in paying not the same prices for the identical product, albeit seller is identical (Li et al., 2018). Price fairness perceptions are shaped by discriminatory price fixing tactics (for example uniform as opposed to. differential pricing, posted as opposed to auction pricing) (Haws and Bearden, 2006).

The pricing literature has identified various antecedents of price fairness, such as, a) perceived motive of seller; b) self-interest bias; c) reference price; d) locus of causality and controllability; e) associated profits of sellers with their costs, competitors’ price, customers’ approximations of previous prices; f) size, mode, as well as scale of seller’s operations. Existing literature has also mentioned other important factors of perceived price fairness, such as, previous experiences; price comparison evaluation; cognitive attribution; buyers’ beliefs regarding the seller’s actions and practices; treatment experience; price expectation; price knowledge; price information; price consciousness; distributive fairness; consistent behaviour; price perception; price trust; fair dealing; the right of codetermination as well as influence; price reliability; price transparency; price honesty. In addition, customer’s behavioural as well as attitudinal consequences are impacted by perceived price fairness. Fairness process brings about unfairness or fairness perceptions pertaining to price, which give rise to negative or positive consequences accordingly.

## **2.2 Attributional approach - price fairness perception**

“For comprehending individuals’ perceptions of fairness, it is required to understand their attributions of responsibility and cause. Attribution theory says individuals tend to look for causal reasons of events, more particularly when events are undesirable, surprising, or negative (Pallas et al., 2017). As price increase is often observed as negative and/or surprising event, consumers are probable to infer causal reasoning behind price increase by firm (Koschate-Fischer et al., 2016). When confronted with undesirable and/or negative events for instance price increases,

customers are inclined to involve in cognitive attribution process. It affects price fairness. Subject to consumers' understanding related to dimensions of cognitive attribution, outcomes evaluation beget negative or positive emotions (Somervuori, 2014), in turn which affects consumers' behavioural intentions (Dominique-Ferreira et al., 2016). The price increase seen as most fair is one whose cause is located external to the seller and is beyond the seller's volitional control (Vaidyanathan and Aggarwal, 2003)" (Shaw et al., 2022, p. 213). Distributive and procedural fairness pertaining to prices are affected by cognitive attribution. Preceding literary works have identified locus of controllability as well as causality as the fundamental causal facets inducing cognitive attributions in addition to resultant behaviours (Chung and Petrick, 2013; Pallas et al., 2017).

## **2.3 Thinking styles**

Holistic thinkers comprehend occurrences via putting them in their contexts, see and perceive them in holistic manner, also emphasis on causal associations amid between distinct happenings or beings (Hossain and Bagchi, 2018; Kwan and Chiu, 2014). Whereas, analytic thinkers are prone in de-contextualisation or separation of things from their context, get away from contradictions as well as focus on sole viewpoints in perceptions formations. Individuals having holistic thinking understand the globe apropos several pertinent influences, hence their attention allocation as well as causal reasoning are grounded on combination on focal and context-based information. On the other hand, in case of individuals having analytic thinking, allocation as well as causal reasoning are grounded on combination on focal information exclusively. Preceding literary works have displayed various cases where perceptions of consumers are significantly influenced by thinking thinking styles (Hossain and Bagchi, 2018; Lalwani and Shavitt, 2013; Monga and John, 2009). Pertaining to thinking styles, product judgments are influenced by the conditions of their display (Shavitt and Barnes, 2019). A holistic thinker perceive a marble table placement of a mug as modern relative to wooden table placement. However, analytic thinkers separate the mug from the context of its display and consider wooden table placement of mug as trendy.

## **2.4 Cultural variances in thinking styles**

A substantial amount of literary works assent with the outlook that Western cultures (for instance Europe, U.S.) and Eastern cultures (for instance Japan, India, Korea, as well as China) espouse analytic and holistic thinking style respectively. Easterners display better field dependence when compared to westerners (Monga and Williams, 2016). While deriving reasons pertaining to causal relationships, easterners undertake the presence of intricate causalities as well as place greater

emphasis on the relationships and interactions of actors with their surrounding conditions. While on the other hand, Westerns mostly contemplate dispositions of actors that are internal in nature (Choi et al., 2007). Subsequently, when time comes to make final attribution, westerners consider less information amount relative to easterners and more promptly commit fundamental attribution error (Choi et al., 2007). Preceding literary works have given proof of variations in Western and Eastern cultures drive by thinking styles relating to tendency of customers to be dependent on context-based information in shaping perceptions. In relation to participants from U.S. and Japan, de Oliveira and Nisbett (2017) indicated cultural variation through highlighting the distinction that ascends subject to distinction in perspective of focus. That is, concentration on focal object as opposed to interconnections of object with its field. On the subject of extensions of parent brands, westerners having analytic thinking style display worse fit perceptions relative to Easterners who have holistic thinking style (Monga and John, 2010). Lalwani and Shavitt (2013) exhibited that cultural variations in styles of thinking encompasses perceived links amid attributes of products that are fundamental in nature, for instance quality and price.

## **2.5 Thinking styles – attribution tendency**

“The difference between holistic and analytic styles of thinking illustrates the variances in individuals’ ways of perceiving, categorising and reasoning their world (Shavitt and Barnes, 2019)” (Shaw et al., 2022, p. 213). “Analytic and holistic thinkers use diverse cognitive processes to foresee and explain reasons behind behaviours/events (Choi, 2016). Styles of thinking (analytic vs. holistic) are prone to dictate level of situational and/or contextual factors consideration in drawing attributions (Choi, 2016). Thinking styles affect cognitive process of making causal attributions, i.e. cognitive attribution to a behaviour/event (Shaw, 2020). Compared to sources inside firms, customers to a greater extent are inclined to ascribe responsibility/blame on sources outside firms, while considering either situational, contextual factors or both (Monga and Hsu, 2018; Monga and John, 2008). For ascribing causes, individuals thinking holistically to a greater extent rely on wider context along with being more focused on relationships amid person/event and situation and/or context, namely external attribution propensities. Analytic thinkers are more likely to attribute causes to internal disposition/object-based factors and ignore situational and contextual influences, namely internal attribution propensities (Monga and John, 2008). Compared to analytic thinkers, holistic thinkers deploy more situational and/or contextual information while processing cognitive attribution (de Oliveira and Nisbett, 2017; Monga and John, 2008; Monga and Williams, 2016). Holistic thinkers tend to deploy external factors including internal

factors, while individuals thinking analytically depend exclusively on the latter. (Hollebeek, 2018; Monga and John, 2008; Monga and Williams, 2016). The attributions enable consumers to prophesy and manage their environments along with determining consumers' satisfaction, perceptions, emotions, behavioural consequences and brand evaluations (Monga and John, 2008; Song et al., 2015). While processing cognitive attribution, inclusion of internal factors lays blame on the company and therefore consumers thinking analytically are more likely to revise their brand evaluations in a negative manner (Monga and John, 2008). Conversely, inclusion of external factors leads to a reverse situation in case consumers thinking holistically (Monga and Hsu, 2018; Pallas et al., 2017)" (Shaw et al., 2022, p. 214).

## **2.6 Attribution, thinking styles, purchase intention, and price fairness perception**

"Causal attribution pertaining to negative events has significant influence on purchase intention of consumers. Consumers' blame attribution to brand sways purchase intention negatively (M. Yu et al., 2018). In case of a negative event, consumers who attribute blame on brand are less prone in buying the brand's product (Laufer and Coombs, 2006). Stronger a consumer believes that the brand should be held responsible for a negative incident such as negative publicity, lesser favourable is his/her purchase intentions (M. Yu et al., 2018). Greater people attribute causes of a negative situation such as crisis to a foreign country, more they feel animosity towards that country, and thereby they are less prone to purchase that country's products/services (Leong et al., 2008). Styles of thinking are important influencers of consumer behaviour in a range of diverse areas (Monga and Williams, 2016)" (Shaw et al., 2022, p. 214). After encountering an incident that is negative in nature, thinking styles have an effect on customers' purchase intention as well as causal attribution. It have an effect on the attributional direction, then in that way purchase intention. "Styles of thinking (holistic vs analytic) affect consumer's causal attribution and after experiencing a negative episode. Style of thinking sways direction of attribution and thereby purchase intention. Analytic thinkers are more inclined to ascribe reasons of negative consumer experience to brand, ensuing in lower brand purchase intention (Yoon, 2013). In contrast, holistic thinkers are more inclined to ascribe reasons of negative consumer experience to retailer, ensuing in lower retailer purchase intention.

Consumers' minds are important assets, if utilise effectively could strengthen firms' competitiveness in today's highly competitive business world. Price attributes have been considered high impact variables that influence consumer purchase intentions in a growing competitive marketing environment (Sakkthivel and Rajev, 2012). Fairness can be a source of competitive advantage. Consumers use perceived

price fairness concept in shaping their purchase behavior (YAĞCI, 2010). Price fairness perceptions significantly determine buyers' buying intention (Lee et al., 2011). Several prior studies have provided evidence on significant positive effect of price fairness toward purchase intention in different sectors such as automobile, food, and airlines (Konuk, 2018; Setiawan et al., 2016; Wang and Chen, 2016). While prices deemed as fair by buyers can increase purchase intention, conversely prices deemed as unfair can decrease purchase intention (Fernandes and Calamote, 2016; Homburg et al., 2014). Perceived price fairness can increase purchase intention of consumers even in case of high perceived prices (Son and Jin, 2019)" (Shaw et al., 2022, p. 214). When rise in prices occurs, perceived price fairness provides more instantaneous reaction in comparison with downstream variable e.g. purchase intention (Koschate-Fischer et al., 2016).

## **2.7 Attribution, thinking styles, behavioural loyalty, and price fairness perception**

Following a negative happening, buyers' attribution of reasoning determines their readiness of rebuying intentions the particular thing (Chung and Petrick, 2013). Loyalty and customers' attribution of blame to brand are related in negative manner (Vidal, 2012). Loyalty and dimensions of cognitive attribution are associated (Choi and Cai, 2016). Stability (being one of the attributional facets) affects loyalty (Nikbin et al., 2016). Likewise, lessened controllability attributions result in greater rebuying intentions ensuing failures of services (Hess, 2008). Also, responsibility of service/product providers concerning a failure and loyalty are negatively connected (Vidal, 2012). Consumers' "loyalty decrease when they attribute the cause of a service failure to stable and controllable factors" (Nikbin et al., 2016, p. 5). Subsequent negative experiences, customers' interpretation of causes and loyalty are interlinked, thereby level of loyalty and causal attribution differ depending on each other (Choi and Cai, 2010). Loyalty and cognitive attribution move in same direction. External, unstable as well as global attribution indicate greater loyalty level and vice-versa (Choi and Cai, 2010). Attribution formation variables and attribution outcomes (such as, loyalty) are connected in complex manner beyond direct impact involving mediators (Osakwe and Yusuf, 2021). After encountering an incident that is negative in nature, thinking styles have an effect on customers' behavioural loyalty as well as causal attribution. It have an effect on the attributional direction, then in that way behavioural loyalty. Repurchase intentions differ between holistic and analytic consumers (Tektaş et al., 2017). Loyalty being part of binding moral values and analytic thinking are negatively correlated (Pennycook et al., 2015, 2014). Analytic thinkers exhibit lower loyalty in compared to holistic thinkers.

In loyalty formation, prices have high significance (Liao et al., 2020; Valvi and West, 2013). Loyal consumers even incline to pay high asking prices (Asadi et al., 2014). Even when there are price increases, then also price fairness boosts loyalty (Martin et al., 2009). Fairness along with price play vital part in shaping loyal consumer base (Hassan et al., 2013). Behavioural loyalty composes repeat buying intentions along recommendations of consumers (Bowen and Chen, 2001; Jones et al., 2007). Price fairness perceptions significantly determine consumers' behavioural loyalty (Chung, 2010). Various preceding research papers have given proof regarding connectivity between loyalty and price fairness being positive and significant in nature across varying fields for instance tourism, online gaming, airline, and telecom (Asadi et al., 2014; Chung and Petrick, 2013; Hassan et al., 2013; Liao et al., 2020). Fair prices augment loyalty (Martín-Consuegra et al., 2007). Buyers' fairness perceptions associated with price sway their recommending (el Haddad et al., 2015) and rebuying intentions (Dai, 2010). Buyers deeming price increases' motives being fair display greater rebuying intentions than those deeming prices being unfair (Homburg et al., 2005). Buyers' feelings of unfairness can engender dearth of loyalty (Asadi et al., 2014).

## **2.8 Need for closure**

Need for closure expresses dislike towards ambiguity and uncertainty, in addition to proclivity in the direction of steady, speedy, conclusive resolutions to difficulties or queries (Kruglanski and Webster, 1996; Stalder, 2009; Umam et al., 2018). It sways a person's information processing method towards the development, closure or change of comprehension (Pierro et al., 2018; Roets et al., 2015). Usually, two propensities trigger the influences of need for closure - urgency and permanence. The proclivity in the direction of urgency ("seizing" phase) signifies a want to seize rapidly on an outlook or locus. The proclivity in the direction of permanence ("freezing" phase) signifies sticking to that acquired outlook or locus and circumvent substitutes (Stalder, 2009). Situation-based and/or context-based influences for instance environmental noise, monotony of a cognitive task or time pressure are able in activating need for closure. Amid these influences, time pressure has substantial acceptance in literary works for manipulating need for closure (Leroy, 2009; Wiersema et al., 2012). Need for closure is asserted as an impetus swayed by situations and/or contexts, in addition a facet of steady individual differences.

## **2.9 Attribution, need for closure, fairness, loyalty, and purchase intention**

Need for closure is substantial influencers of various consumer behaviour constituents (Vermeir, 2003). An extensive range of consumers' preferences along behavior can be predicted by individual variances pertaining to need for closure (Vermeir, 2003). Need for closure (high vs analytic) affect consumer's attributional propensity, fairness judgments-perceptions, loyalty, and purchase intention. Fundamental attribution error refers to a propensity that comprises overestimation of dispositional influences and underestimation of situational elements simultaneously pertaining to causal explanations regarding an occurrence or a behaviour. On the subject of causal attributions, high need for closure individuals more promptly commit the aforementioned error relative to low need for closure individuals (Kruglanski and Webster, 1996). The aforesaid attributional propensity sways behavioural outcomes, evaluations, as well as perceptions of customers. Need for closure sway fairness judgements-perceptions of consumers (Mattila and Choi, 2012). Low need for closure persons exhibited higher perceptions of fairness than high need for closure persons (Chatterjee, 2007; Mattila and Choi, 2012; Pietrzak et al., 2014). Also, need for closure holds negative indirect connection with fairness perceptions of consumers (Pietrzak et al., 2014). Need for closure of consumers affects their loyalty (Arquero et al., 2017; Choi et al., 2008; Rempala et al., 2016). Loyalty being part of moral binding foundations and need for closure are associated with each other (Federico et al., 2016). Consumers' need for closure shape their purchase intention (Kim and Hwang, 2017) and buying propensity (Lee et al., 2009). People with different need for closure (high vs low) differ in their purchase choice behavior (Vermeir et al., 2002).

## **2.10 Definitions of parameters**

### Analytic thinking

“involves a detachment of the object from its context, a tendency to focus on attributes of the object to assign it to categories, and a preference for using rules about the categories to explain and predict the object's behavior” (Nisbett et al., 2001, p. 293)

### Behavioral Loyalty

“the frequency of repeat or relative volume of same-brand purchase” (Chung, 2010, p. 7)

### Cognitive Attribution:

“a cognitive process that infers the cause(s) of an event or others' behavior, which in turn leads to



	behavioral intentions or consequences” (Chung, 2010, p. 7)
<u>High need for closure:</u>	“desire quick, firm answers to questions or problems” (Stalder, 2009, p. 701)
<u>Holistic thinking:</u>	“involving an orientation to the context or field as a whole, including attention to relationships between a focal object and the field, and a preference for explaining and predicting events on the basis of such relationships” (Nisbett et al., 2001, p. 293)
<u>Low need for closure:</u>	“when a person finds processing information as intrinsically rewarding, he or she tends to evade closure” (Rezazadeh and Zarrinabadi, 2021, p. 871)
<u>Need for closure:</u>	“need to have any answer on a given topic, as opposed to further ambiguity” (Kossowska et al., 2002, p. 268)
<u>Perceived price fairness:</u>	“the consumer’s assessment of whether a price is reasonable, acceptable, or justifiable ” (Koschate-Fischer et al., 2016, p. 610)
<u>Purchase intention:</u>	“the tendency for the consumer to take actual purchase action” (Lau et al., 2016, p. 2)
<u>Thinking style:</u>	“a person's preferences for thinking about given information and making decisions out of it” (Bongcales et al., 2022, p. 4)

## 2.11 Hypotheses

Based on literature review and to achieve objectives of the doctoral thesis, following hypotheses were developed.

H1: Thinking styles (analytic vs. holistic) will influence perceived price fairness in a price increase context. Specifically, holistic thinkers will perceive a price increase as fairer than analytic thinkers.

H2: Cognition attribution will mediate the influence of thinking styles on perceived price fairness.

H3: The influence of thinking styles on purchase intention will be serially mediated via cognitive attribution and perceived price fairness.

H4: The influence of thinking styles on behavioural loyalty will be serially mediated via cognitive attribution and perceived price fairness.

H5: Easterners will perceive a price increase as fairer than Westerners.

H6: Cognition attribution will mediate the influence of culture on perceived price fairness.

H7: Cultural differences in cognitive attribution can be attributed to styles of thinking.

H8: Cultural differences in perceived price fairness can be attributed to styles of thinking.

H9: The influence of culture on purchase intention will be serially mediated via cognitive attribution and perceived price fairness.

H10: The influence of culture on behavioural loyalty will be serially mediated via cognitive attribution and perceived price fairness.

H11: Cultural differences in purchase intention can be attributed to styles of thinking.

H12: Cultural differences in behavioural loyalty can be attributed to styles of thinking.

H13: Need for closure (high vs. low) will influence perceived price fairness in a price increase context. Specifically, low need for closure individuals will perceive a price increase as fairer than high need for closure individuals.

H14: Cognition attribution will mediate the influence of need for closure on perceived price fairness.

H15: The influence of need for closure on purchase intention will be serially mediated via cognitive attribution and perceived price fairness.

H16: The influence of need for closure on behavioural loyalty will be serially mediated via cognitive attribution and perceived price fairness.

Five experimental studies were conducted for testing the formulated hypotheses towards fulfilment of the thesis objectives. Table 2.1 briefly describes tested hypotheses, and objectives corresponding to each studies.

Table 2.1 Summary of studies with objectives and hypotheses

Study Number	Objective	Hypothesis
1	SOBJ1	H1 to H2
2	SOBJ1	H1 to H4
3	SOBJ1	H5 to H8
4	SOBJ1	H9 to H12
5	SOBJ2	H13 to H16

Source: Structured by the thesis writer

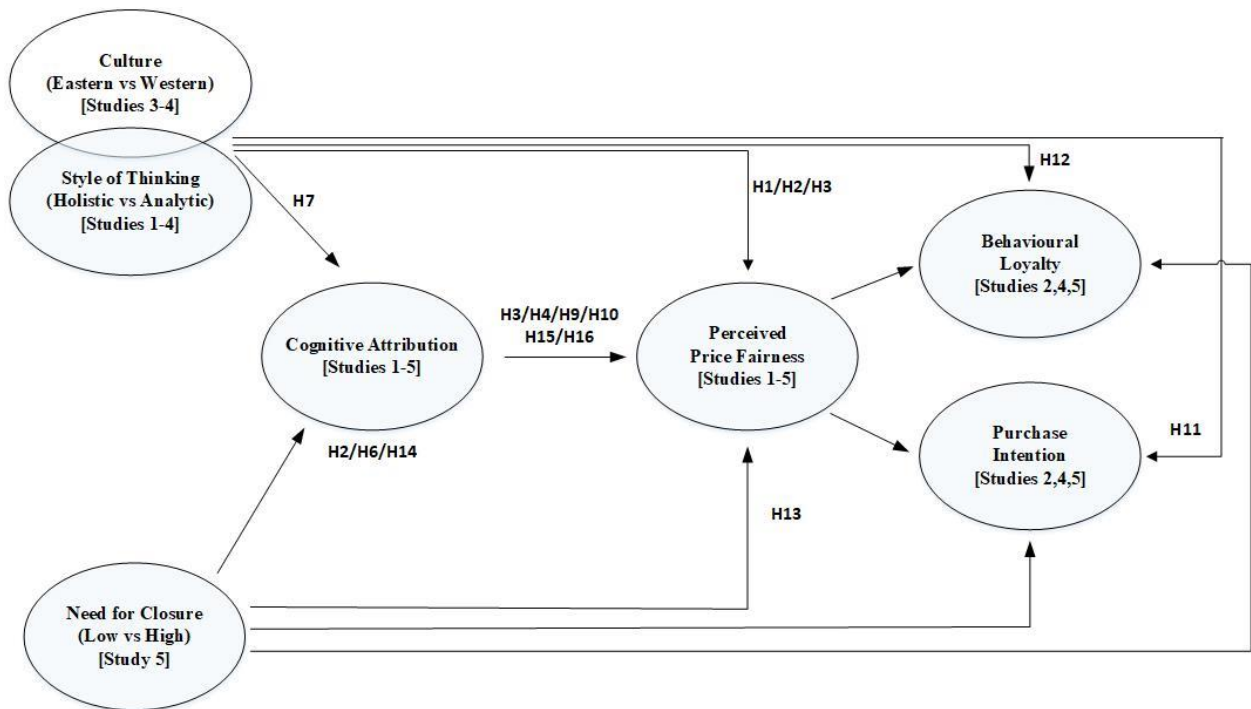
## 2.12 Overview of studies

Study 1 demonstrates the link between price fairness perceptions, cognitive thinking styles, and cognitive attribution in price increase situation. Study 2 verifies reliability and generalisability of study 1 results. It extends causal relationships of

study 1 by including more managerially pertinent consequence variables, i.e. behavioural loyalty and purchase intention. Aforementioned studies demonstrate the cognitive styles of thinking effect in individual context. Study 3 and study 4 present the cognitive thinking styles impact in cultural context. Study 3 shows the link between culture, price fairness perceptions, and cognitive attribution apropos price increase context. It also tests attribution of cultural variances in cognitive attribution and price fairness perceptions on thinking styles. Study 4 verifies reliability and generalisability of study 3 results. It extends causal relationships of study 3 by including behavioural loyalty and purchase intention. Study 5 demonstrates the link between cognitive need for closure, cognitive attribution, buying intention, behavioural loyalty, and price fairness perceptions pertaining to price rise circumstance. It presents the effect of cognitive need for closure in individual context.

## 2.13 Conceptual framework

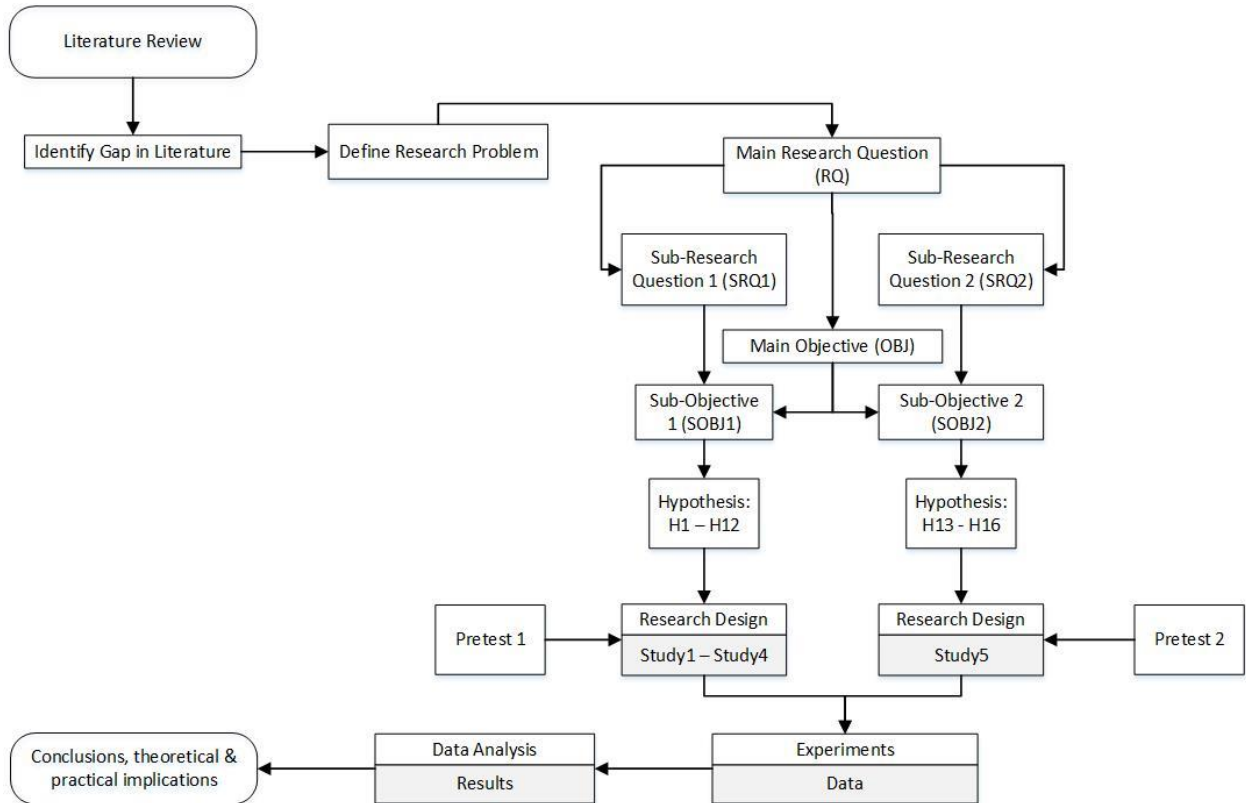
Fig 2.1. illustrates a conceptual framework that was developed in concordant with the formed objectives and formulated hypotheses.



*Fig. 2.1: Conceptual framework*  
*Source: Illustrated by the thesis writer*

### 3. METHODOLOGY OF DOCTORAL THESIS

Fig. 3.1. depicts the roadmap of the doctoral thesis. This roadmap shows the individual steps and workflow of this doctoral research work.



*Fig. 3.1: Roadmap of the thesis research work  
Source: Illustrated by the thesis writer*

The overall methodology of the thesis has been schematically sketched in the following figure 3.2. This schematic gives brief information on the interconnectivity between five experimental studies and objectives including design and sample with tools, under the umbrella of OBJ.

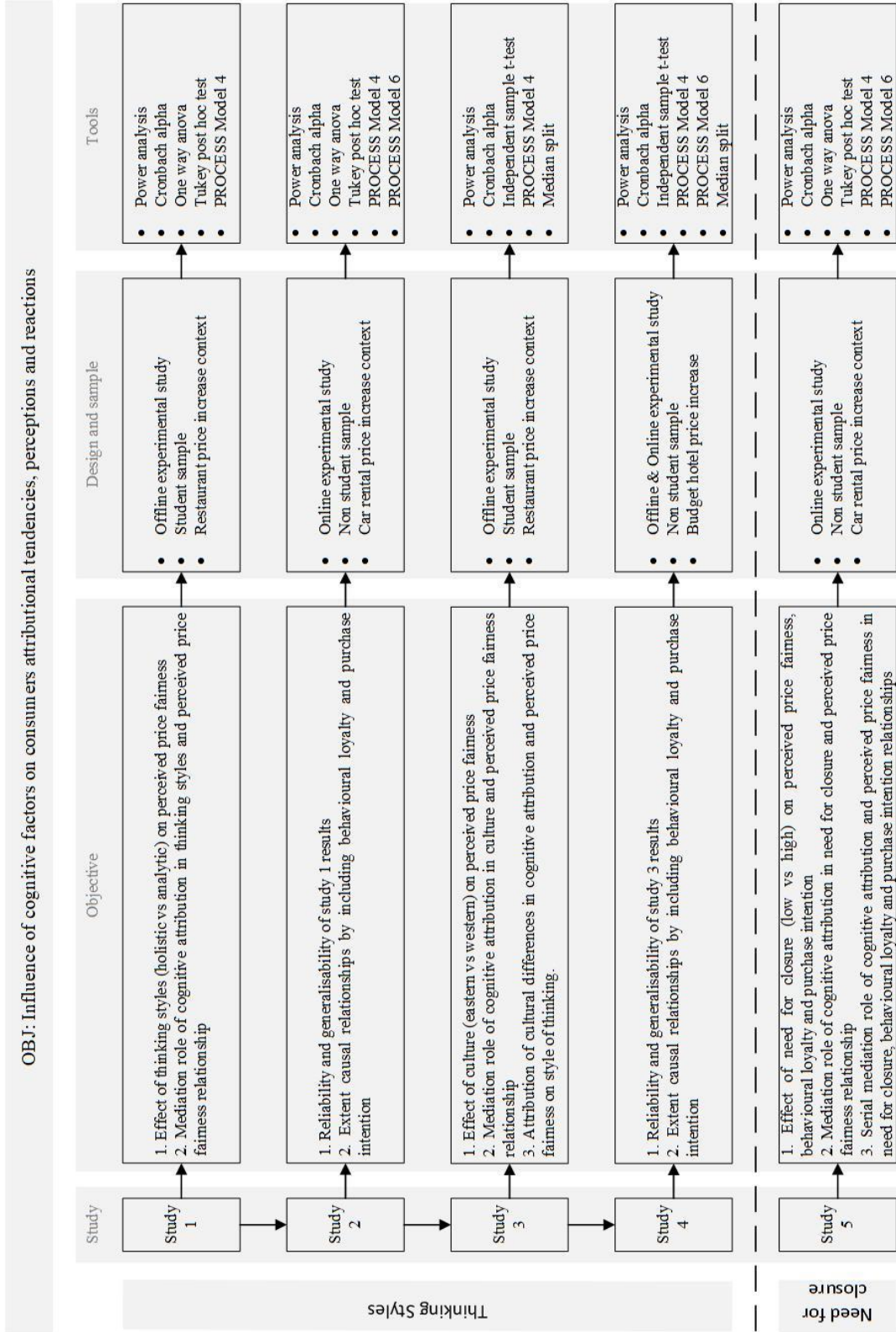


Fig. 3.2: Methodology schematic with respect to studies and objectives  
Source: Illustrated by the thesis writer

## **4. STUDY 1**

### **4.1 Research objective, methodology and data**

#### **4.1.1 Research objective**

Study 1 experimentally demonstrating the styles of thinking influence (holistic vs. analytic) upon perceived price fairness, had two objectives. First, it investigated whether thinking styles influence perceived price fairness, such that compared to analytic thinkers, their holistic counterparts perceive a price augmentation as more fair (H1). Second, it tested the mediating role that cognitive attribution plays in the association amid perceived price fairness and styles of thinking (H2).

#### **4.1.2 Design and sample**

Hypotheses H1 and H2 were investigated via experimental study 1. Participants in this experiment “were assigned to either analytic thinking, control or holistic thinking condition randomly. Unlike the other two groups, participants in control group didn’t receive any styles of thinking manipulation. Power analysis using statistical package G\*power was performed to get the necessary sample size. In G\*power tool, – the following options were selected: F tests, one-way ANOVA and ‘A Priori’ power analysis. Result showed 159 as the total sample size, given medium effect size, 80% statistical power, 0.05 significance level, and number of groups = 3” (Shaw et al., 2022, p. 215). Convenience sampling method was deployed to choose participants. Participants’ qualification criteria was set of having the restaurants food for atleast two times in a week. 276 students participated in the experimental study from a public university in India in the course of March 2019 to July 2019. There were 51% males (142) and 49% females (134). Amid participants greater part of them (215) belong to group of 21 to 30 age (78%).

#### **4.1.3 Styles of thinking manipulation**

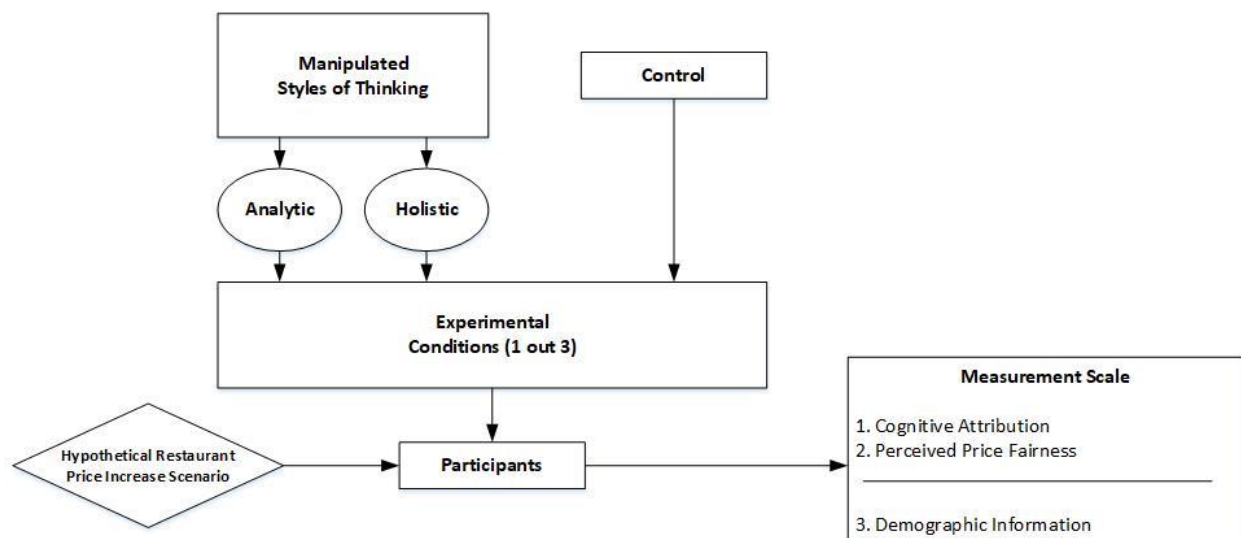
“For manipulating styles of thinking a grayscale picture was displayed to participants wherein, 11 smaller objects images were embedded (Lalwani and Shavitt, 2013; Monga and John, 2008). Participants assigned to analytic thinking group were instructed to find maximum individual objects among the 11 embedded smaller objects from the displayed picture. Finding out the individual embedded objects from the picture stimulates field independence, one of the significant attributes pertaining to analytic thinkers (Nisbett et al., 2001). Participants assigned to holistic thinking group were instructed to concentrate on the same grayscale picture’s background and write their observations about the picture in few lines.

Concentration directed towards background stimulates relational processing and field dependence, vital attributes pertaining to holistic thinkers (Nisbett et al., 2001). The information about the presence of 11 embedded smaller objects in the picture was not provided to this group of participants. Additionally, the picture's objects were ably embedded, so that participants in this thinking condition would not be able to find them spontaneously” (Shaw et al., 2022, p. 215). Details are provided in Appendix A (English) and Appendix B (English).

#### 4.1.4 Procedures and measures

Pretest1 with “n=47 was performed to verify the manipulation method’s effectiveness. After completing the manipulation task then the participants responded to a twelve-item thinking style measurement having seven-point Likert scale (Song et al., 2015). Example of an item used in thinking styles measurement: everything in the universe is somehow related to each other (Choi et al., 2007)” (Shaw et al., 2022, p. 215). Details are provided in appendix E.

The main experimental study comprised of three sections – i) the technique stated in “Styles of thinking manipulation” segment was utilised to manipulate styles of thinking. ii) Participants were requested to peruse subsequent hypothetical scenario of price increase occurrence related to a restaurant: “Imagine you want to visit a restaurant for dining. You visit the website of the restaurant, which you usually avail. During reservation process, you discover that the price of the food that you ordered last time has increased”. iii) Participants finished perceived price fairness, cognitive attribution measurement scales including specific demographic information.



*Fig. 4.1: Research methods study 1*

*Source: Illustrated by the thesis writer*

“All utilized measurement scales have their sources in literature, however, they were revised (when required) to fit this research. Perceived price fairness measurement contained six items (Chung and Petrick, 2013) on a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) (Chung and Petrick, 2015). Example of an item used in its measurement: –the price increase is fair (Chung and Petrick, 2013; Chung and Petrick, 2015). Cognitive attribution measurement contained five items having bipolar rating (semantic differential) scale from 1 to 7 (Chung and Petrick, 2013)” (Shaw et al., 2022, p. 216). Among the items – “the cause(s) of price increase is something about the restaurant /other situations” was one of them (Chung and Petrick, 2013, p. 175). Details regarding perceived price fairness, cognitive attribution measurements and demographic information are provided in Appendix D (English), Appendix C (English), and Appendix I (English) respectively.

## **4.2 Results**

### **4.2.1 Assumptions check of pretest1 manipulation analysis**

For performing independent-samples t-test following assumptions needed to be fulfilled: (i) dependent variable is continuous, (ii) categorical independent variable, (iii) independent observations, (iv) no outliers, (v) normality, and (vi) homogeneity of variances. As part of the initial check, pre-test 1 design fulfilled the first 3 assumptions.

#### ***Styles of thinking measurement scale***

As evaluated via boxplot, no outliers were there. Moreover, as measured via Shapiro-Wilk test, the individual group's data (holistic = .987; analytic = .204) followed normal distribution. Furthermore, as evaluated via Levene's test ( $p = .762$ ) homogeneity of variances was there.

### **4.2.2 Pretest manipulation check**

Accordance with the Table 4.1, the computed Cronbach's  $\alpha$  pertaining to styles of thinking measurement ( $\alpha = .717$ ) confirms that the measurement is internally consistent with acceptable level.

Table 4.1 Measurement variable with  $\alpha$  coefficient

<b>Measure</b>	<b><math>\alpha</math> coefficient</b>
Thinking styles	.717



Source: Computed by the thesis writer

### ***Thinking styles influencing styles of thinking measurement scale***

Table 4.2 illustrates independent samples t-test findings. As exhibited by the table, in thinking styles measurement scale, analytically-manipulated participants obtained significantly lower than their holistically-manipulated counterparts ( $M_{\text{analytic}} = 4.56$ ,  $M_{\text{holistic}} = 5.54$ ),  $t(45) = 5.23$ ,  $p < .001$  with  $d = 1.53$ , i.e., effect size = large (as depicted in Fig. 4.2). Specifically, styles of thinking measurement scale was statistically significantly different for holistically-manipulated and analytically-manipulated participants, given .05 alpha level. Computed  $d = 1.53$  implies effect size was large and two groups' means differed by 1.53 standard deviations. Moreover, it also implies meaningfulness as well as practical importance of the difference. Thus implied adequate manipulation technique.

Table 4.2 t-test: thinking styles influencing styles of thinking measurement scale

Conditions	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p-value</i>	<i>d</i>
Analytic	4.56	0.66	5.23	.000*	1.53
Holistic	5.54	0.62			

\*  $p < .05$

Source: Computed by the thesis writer

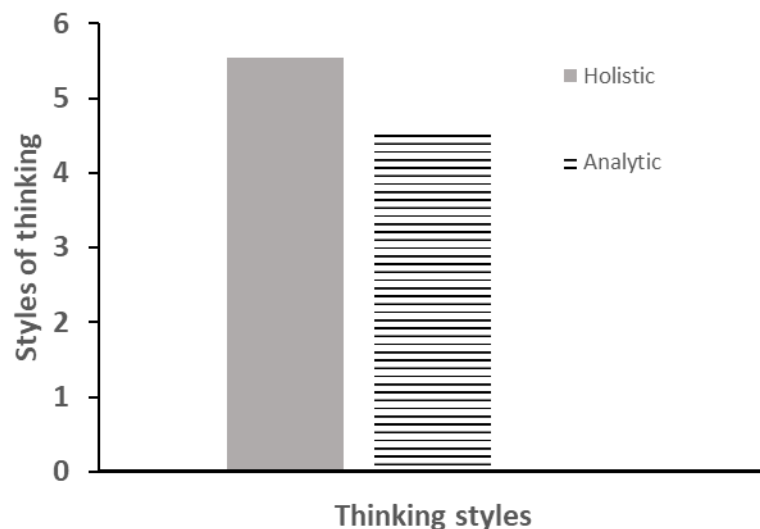


Fig. 4.2: Styles of thinking measurement scale with respect to holistically-manipulated and analytically-manipulated participants

Source: Illustrated by the thesis writer

### 4.2.3 Assumptions check of study 1

For performing ANOVA analysis following assumptions needed to be fulfilled: (i) dependent variable is continuous, (ii) categorical independent variable, (iii) independent observations, (iv) no outliers, (v) normality, and (vi) homogeneity of variances. As part of the initial check, Study 1 design fulfilled the first 3 assumptions.

#### *Cognitive attribution*

As evaluated via boxplot, no outliers were there. Moreover, as measured via Shapiro-Wilk test, the individual group's data (holistic = .059; control = .086; analytic = .056) followed normal distribution. Furthermore, as evaluated via Levene's test ( $p = .299$ ) homogeneity of variances was there.

#### *Perceived price fairness*

As evaluated via boxplot, no outliers were there. Moreover, as measured via Shapiro-Wilk test, the individual group's data (holistic = .052; control = .154; analytic = .053) followed normal distribution. Furthermore, as evaluated via Levene's test ( $p = .346$ ) homogeneity of variances was there.

### 4.2.4 Study 1 analysis

Accordance with the Table 4.3, the computed Cronbach's  $\alpha$ , i.e., .891 and .809 pertaining to perceived price fairness and cognitive attribution individually confirm that the measurements are internally consistent with acceptable level.

Table 4.3 Measurement variables with  $\alpha$  coefficient

Measure	$\alpha$ coefficient
Perceived price fairness	.891
Cognitive attribution	.809

Source: Computed by the thesis writer

#### *Thinking styles influencing cognitive attribution*

Computed results of single-factor ANOVA are illustrated in Table 4.4. As reflected in the table, cognitive attribution was significantly influenced by thinking styles,  $F(2, 273) = 29.26$ ,  $p < .001$  with  $\eta^2 = .18$ , i.e., effect size = large. In particular, cognitive attribution differed in relation to varying conditions of thinking styles (as depicted in Fig. 4.3). Aforementioned difference had statistical significance, given .05 alpha level. Computed  $\eta^2 = .18$  implies effect size was large and thinking styles

(IV) caused 18% of the variance in cognitive attribution (DV). Moreover, it also implies meaningfulness as well as practical importance of the difference.

Table 4.4 ANOVA: thinking styles influencing cognitive attribution

Conditions	<i>M</i>	<i>SD</i>	<b>F</b>	<b>p-value</b>	$\eta^2$
Analytic	3.08	1.19	29.26	.000*	.18
Control	3.71	1.10			
Holistic	4.33	1.04			

\* $p < .05$

Source: Computed by the thesis writer

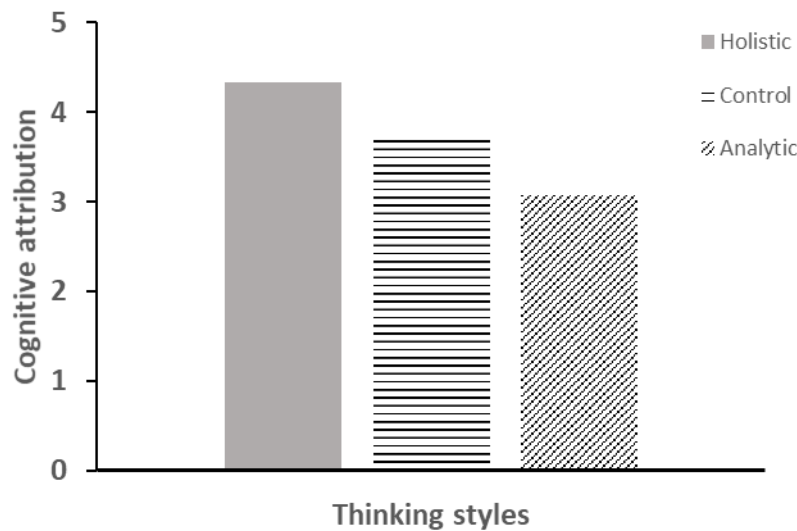


Fig. 4.3: Cognitive attribution with respect to thinking styles

Source: Illustrated by the thesis writer

Additionally, computed results of Tukey post hoc test are depicted in Table 4.5. Derived from the table, group pertaining to individuals manipulated holistically vis-à-vis group pertaining to individuals manipulated analytically displayed a significant cognitive attribution mean rise (1.25) from latter to former group with CI [.87, 1.64] not containing 0 and  $p < .001$ . Analogously, group pertaining to individuals manipulated analytically vis-à-vis group pertaining to control individuals displayed a significant cognitive attribution mean fall (.62) from latter to former group with CI [-1.01, -.24] not containing 0 and  $p < .001$ . Correspondingly, group pertaining to individuals manipulated holistically vis-à-vis group pertaining to control individuals displayed a significant cognitive attribution mean rise (.63) from latter to former

group with CI [.24, 1.01] not containing 0 and  $p < .001$ . Predictably, cognitive attribution varied amongst groups with variances being statistically significant.

Table 4.5 Turkey HSD: thinking styles influencing cognitive attribution

Conditions		MD	p-value	95% CI	
				LB	UB
Holistic	Analytic	1.25*	.000	.87	1.64
Analytic	Control	-.62*	.000	-1.01	-.24
Holistic	Control	.63*	.000	.24	1.01

\*  $p < .05$

Source: Computed by the thesis writer

### *Thinking styles influencing perceived price fairness*

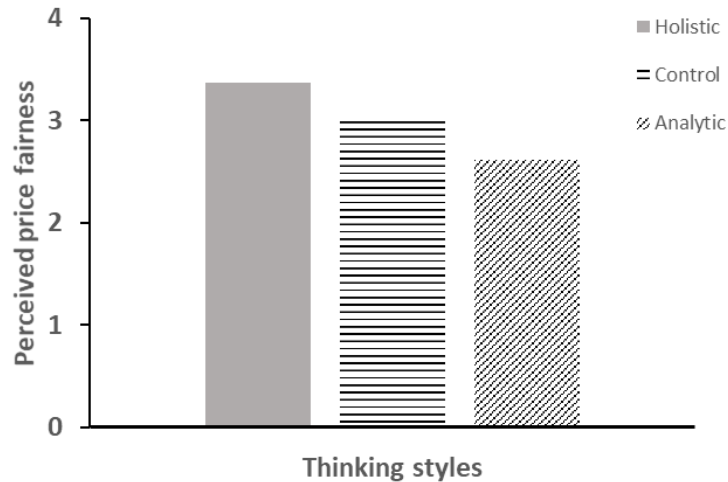
Computed results of single-factor ANOVA are illustrated in Table 4.6. As reflected in the table, perceived price fairness was significantly influenced by thinking styles,  $F(2, 273) = 18.14$ ,  $p < .001$  with  $\eta^2 = .12$ , i.e., effect size = large. In particular, perceived price fairness differed in relation to varying conditions of thinking styles (as depicted in Fig. 4.4). Aforementioned difference had statistical significance, given .05 alpha level. Computed  $\eta^2 = .12$  implies effect size was large and thinking styles (*IV*) caused 12% of the variance in perceived price fairness (*DV*). Moreover, it also implies meaningfulness as well as practical importance of the difference.

Table 4.6 ANOVA: thinking styles influencing perceived price fairness

Conditions	<i>M</i>	<i>SD</i>	<b>F</b>	<b>p-value</b>	$\eta^2$
Analytic	2.62	.90	18.14	.000*	.12
Control	3.00	.77			
Holistic	3.37	.85			

\*  $p < .05$

Source: Computed by the thesis writer



*Fig. 4.4: Perceived price fairness with respect to thinking styles*  
*Source: Illustrated by the thesis writer*

Moreover, computed results of Tukey post hoc test are depicted in Table 4.7. Derived from the table, group pertaining to individuals manipulated holistically vis-à-vis group pertaining to individuals manipulated analytically displayed a significant perceived price fairness mean rise (.75) from latter to former group with CI [.46, 1.04] not containing 0 and  $p < .001$ . Analogously, group pertaining to individuals manipulated analytically vis-à-vis group pertaining to control individuals displayed a significant perceived price fairness mean fall (.38) from latter to former group with CI [-.67, -.08] not containing 0 and  $p = .007$ . Correspondingly, group pertaining to individuals manipulated holistically vis-à-vis group pertaining to control individuals displayed a significant perceived price fairness mean rise (.37) from latter to former group with CI [.08, .66] not containing 0 and  $p = .009$ . Perceived price fairness varied amongst groups with variances being statistically significant. Predictably, higher perceived price fairness was detected in holistic thinkers group when compared with the analytic thinkers group, thus implied acceptance of H1.

**Table 4.7 Turkey HSD: thinking styles influencing perceived price fairness**

Conditions		MD	p-value	95% CI	
				LB	UB
Holistic	Analytic	.75*	.000	.46	1.04
Analytic	Control	-.38*	.007	-.67	-.08
Holistic	Control	.37*	.009	.08	.66

\* $p < .05$

Source: Computed by the thesis writer

### ***Thinking styles influencing perceived price fairness by means of cognitive attribution (mediation)***

Employing Hayes (2018) “PROCESS Model 4 with 5000 bootstrap samples and 95% bias–corrected CIs” (Newman et al., 2019, p. 88) H2 was tested. Table 4.8 illustrates computed results. Based on the table, IE of analytic thinking style on perceived price fairness by means of cognitive attribution =  $-.30$  with the bootstrap CI being non-inclusive of 0 along completely below 0 ( $-.47$  to  $-.13$ ). Hence, abovementioned IE was significantly negative. Likewise, IE of holistic thinking style on perceived price fairness by means of cognitive attribution =  $.31$  with the bootstrap CI being non-inclusive of 0 along completely above 0 ( $.16$  to  $.47$ ). Hence, abovementioned IE was significantly positive. Therefore, detection of anticipated effects of mediation implied acceptance of H2.

Table 4.8 Thinking styles influencing perceived price fairness by means of cognitive attribution: mediation

Way of influence	Estimation of parameter ( <i>SE</i> )	CI
Bootstrapped IE		
Analytic thinking → Cognitive attribution → Perceived price fairness	$-.30$ ( $.09$ )	CI: $-.47$ , $-.13$
Holistic thinking → Cognitive attribution → Perceived price fairness	$.31$ ( $.08$ )	CI: $.16$ , $.47$

Source: Computed by the thesis writer

## **4.3 Discussion**

“Styles of thinking (analytic vs. holistic) affect cognitive attribution concerning a price increase occurrence. This finding is consistent with Yoon (2013) research, who employing U.S. university students showed that consumers’ thinking styles shape their causal attributions. At cognitive attribution stage, consumers manipulated to think holistically had greater focus on external contextual factors, resulting in higher tendencies of external attribution. Oppositely, consumers manipulated to think analytically had greater ignorance towards external contextual factors and favoured internal object/disposition based factors, resulting in higher tendencies of internal attribution” (Shaw et al., 2022, p. 219). “Consumers manipulated to think holistically

attributed causes of the price increase to the factors external to the company more than consumers manipulated to think analytically. As predicted, in face of a price increase occurrence, among holistically manipulated consumers more cognitive attribution was observed. On the contrary, among analytically manipulated consumers less cognitive attribution was observed. These findings are in line with Monga and John (2008) findings that indicated holistic thinkers consider more external contextual factors/explanations while assigning causality of an event/a behaviour. Conversely, analytic thinkers consider less external contextual factors/explanations while assigning causality of an event/a behaviour. Choi et al. (2007) also reported similar findings where Koreans (representing holistic thinkers) exhibited higher causal attribution than Americans (representing analytic thinkers). In addition, the significant effect of thinking styles on consumers' price perceptions was found. Particularly, holistic thinkers perceive a price increase as fairer than analytic thinkers. Results also demonstrated the mediation role of cognitive attribution. As expected, consumers manipulated to think holistically considering external contextual factors perceive the price increase as more fair. On the other hand, consumers manipulated to think analytically ignoring external contextual factors show opposite perceptions. These outcomes are consonant with prior studies indicating cognitive attribution positively influenced price fairness (Chung and Petrick, 2013) as well as price increases driven by external factors are perceived as fairer than those driven by internal factors (Vaidyanathan and Aggarwal, 2003)" (Shaw et al., 2022, p. 220).

## **5. STUDY 2**

### **5.1 Research objective, methodology and data**

#### **5.1.1 Research objective**

This study provides the first demonstration of the role of styles of thinking on purchase intention, and behavioural loyalty influenced by cognitive attribution as well as, in turn, perceived price fairness. The experimental study 2 four-folded objectives were: 1) to examine whether the analytic versus holistic styles of thinking influence on purchase intention is serially mediated through cognitive attribution in addition to perceived price fairness (H3), 2) to examine whether the impact of analytic versus holistic styles of thinking on behavioural loyalty is serially mediated through cognitive attribution in addition to perceived price fairness (H4), 3) to replicate study 1 on a non-student sample that generally represents the Indian population along with extending the causal relationships by including more managerially pertinent consequence variables, i.e. behavioural loyalty, purchase intention, 4) to use car rental as the service connected to the price increase

occurrence (compared to restaurant in study 1). Hence, aiming to verify the generalisation of study 1 results, an unlike kind of service with a more typical non-student sample was used.

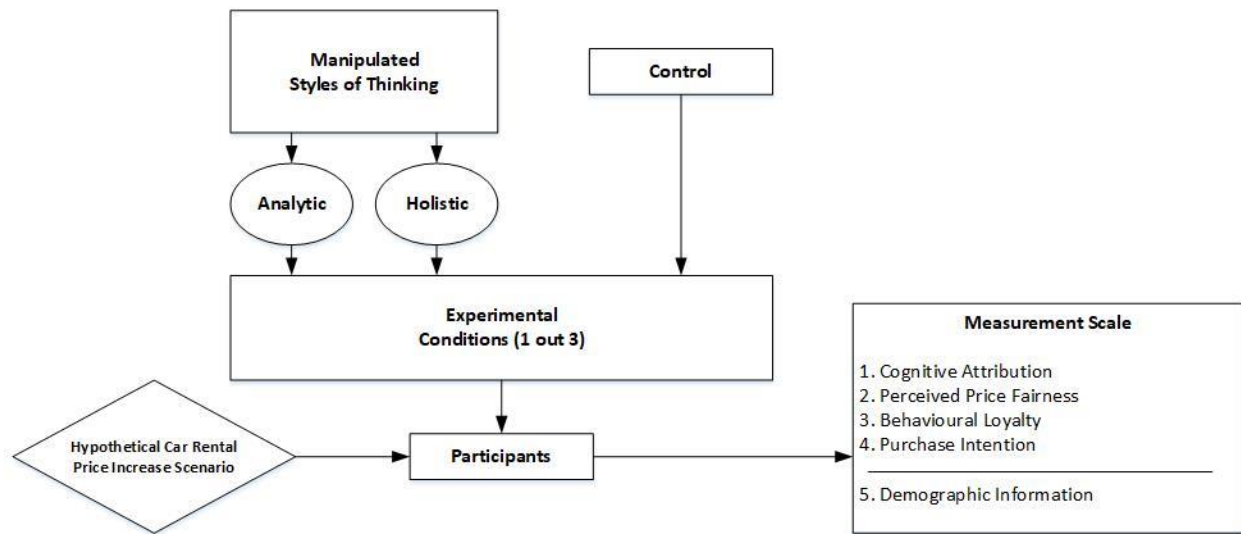
### **5.1.2 Design and sample**

Hypotheses H1 – H4 were examined via experimental study 2. “Participants in the online experiment were assigned to either analytic thinking, control or holistic thinking condition randomly. Unlike the other two groups, participants in control group didn’t receive any styles of thinking manipulation. The necessary sample size is same as study 1. As a first step, information was spread via word-of-mouth, e-mail communications, online forums and social media to find people willing to participate in this experiment voluntary. As a second step, participants having frequent experience (i.e. atleast once a week) of using car rental services were only qualified. Participants were chosen using simple random sampling method. The sample consists of participants throughout India, mostly from tier-1 cities (where population as well as living costs are high). Consumers from tier-1 cities frequently use car rental services. The experiment was conducted online and anonymity of the participants was maintained. Finally, 171 Indian participants took part in this experimental study during September 2021 – December 2021. Among them, male and female participants were 58% (99) and 42% (72) respectively” (Shaw et al., 2022, p. 215). Amid participants greater part of them (72) belong to group of 21 to 30 age (42%).

### **5.1.3 Procedures and measures**

Similar to study 1, this experimental study also consisted of three parts – i) Styles of thinking manipulation procedure was identical to Study 1. “ii) Participants were asked to read following hypothetical scenario of price increase event in context of a car rental: Imagine you need to rent a car for a travel purpose. You get to the website for rental car, which you commonly use. During the procedure of car booking, you discover that the price has increased compared to last time though pick-up station, destination, car category and car configuration are same as your last booking. iii) Participants completed perceived price fairness, cognitive attribution, purchase intention”, and behavioural loyalty measurement scales with certain demographic information (Shaw et al., 2022, p. 216).





*Fig. 5.1: Research methods of study 2*  
*Source: Illustrated by the thesis writer*

Except purchase intention, and behavioural loyalty all measurement scales used in this study are same as study 1 with modification according to the context of car rental. Measurement of purchase intention comprised of three items, “on a seven-point rating scale” (Koschate-Fischer et al., 2016, p. 624). The scale ranged from “very low” to “very high”. Instance of an item utilised in purchase intention measurement – “The likelihood of me purchasing this service of car rental is...” (Koschate-Fischer et al., 2016, p.623). Details are provided in Appendix F (English). Behavioural loyalty measurement contained five items “on a Likert-type scale ranging from 1 (very unlikely) to 5 (very likely)” (Chung and Petrick, 2013, p.175). Among the items – “I will say positive things about the car rental to other people” was one of them (Chung and Petrick, 2013, p. 175). Details are provided in Appendix G (English).

## 5.2 Results

### 5.2.1 Assumptions check of study 2

As part of the initial check, study 2 design fulfilled the first 3 ANOVA analysis assumptions, i.e, (i) dependent variable is continuous, (ii) categorical independent variable, (iii) independent observations. Details of checking other 3 assumptions can be found below.

### ***Cognitive attribution***

As evaluated via boxplot, no outliers were there. Moreover, as measured via Shapiro-Wilk test, the individual group's data (holistic = .070; control = .061; analytic = .058) followed normal distribution. Furthermore, as evaluated via Levene's test ( $p = .337$ ) homogeneity of variances was there.

### ***Perceived price fairness***

As evaluated via boxplot, no outliers were there. Moreover, as measured via Shapiro-Wilk test, the individual group's data (holistic = .056; control = .209; analytic = .054) followed normal distribution. Furthermore, as evaluated via Levene's test ( $p = .160$ ) homogeneity of variances was there.

### ***Purchase intention***

As evaluated via boxplot, no outliers were there. Moreover, as measured via Shapiro-Wilk test, the individual group's data (holistic = .200; control = .314; analytic = .055) followed normal distribution. Furthermore, as evaluated via Levene's test ( $p = .613$ ) homogeneity of variances was there.

### ***Behavioural loyalty***

As evaluated via boxplot, no outliers were there. Moreover, as measured via Shapiro-Wilk test, the individual group's data (holistic = .117; control = .064; analytic = .081) followed normal distribution. Furthermore, as evaluated via Levene's test ( $p = .434$ ) homogeneity of variances was there.

## **5.2.2 Study 2 analysis**

Accordance with the Table 5.1, the computed Cronbach's  $\alpha$ , i.e., .885, .733, .874, and .800 pertaining to behavioural loyalty, purchase intention, perceived price fairness, and cognitive attribution individually confirm that the measurements are internally consistent with acceptable level.

Table 5.1 Measurement variables with  $\alpha$  coefficient

<b>Measure</b>	<b><math>\alpha</math> coefficient</b>
Behavioural loyalty	.885
Purchase intention	.733
Perceived price fairness	.874
Cognitive attribution	.800

Source: Computed by the thesis writer

### ***Thinking styles influencing cognitive attribution***

Computed results of single-factor ANOVA are illustrated in Table 5.2. As reflected in the table, cognitive attribution was significantly influenced by thinking styles,  $F(2, 168) = 28.04, p < .001$  with  $\eta^2 = .25$ , i.e., effect size = large. In particular, cognitive attribution differed in relation to varying conditions of thinking styles (as depicted in Fig. 5.2). Aforementioned difference had statistical significance, given .05 alpha level. Computed  $\eta^2 = .25$  implies effect size was large and thinking styles (IV) caused 25% of the variance in cognitive attribution (DV). Moreover, it also implies meaningfulness as well as practical importance of the difference.

Table 5.2 ANOVA: thinking styles influencing cognitive attribution

Conditions	<i>M</i>	<i>SD</i>	<b>F</b>	<b>p-value</b>	$\eta^2$
Analytic	3.04	1.14	28.04	.000*	.25
Control	3.90	1.00			
Holistic	4.61	1.20			

\*  $p < .05$

Source: Computed by the thesis writer

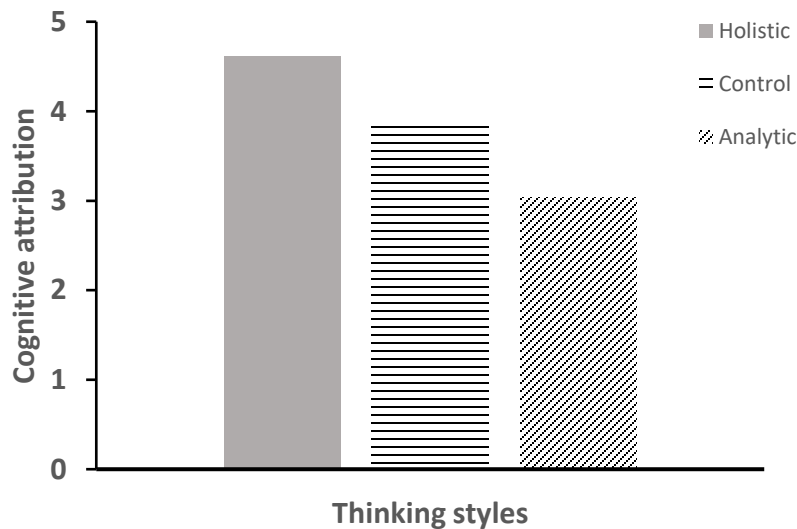


Fig. 5.2: Cognitive attribution with respect to thinking styles

Source: Illustrated by the thesis writer

Additionally, computed results of Tukey post hoc test are depicted in Table 5.3. Derived from the table, group pertaining to individuals manipulated holistically vis-

à-vis group pertaining to individuals manipulated analytically displayed a significant cognitive attribution mean rise (1.56) from latter to former group with CI [1.07, 2.06] not containing 0 and  $p < .001$ . Analogously, group pertaining to individuals manipulated analytically vis-à-vis group pertaining to control individuals displayed a significant cognitive attribution mean fall (.86) from latter to former group with CI [-1.35, -.36] not containing 0 and  $p < .001$ . Correspondingly, group pertaining to individuals manipulated holistically vis-à-vis group pertaining to control individuals displayed a significant cognitive attribution mean rise (.71) from latter to former group with CI [.21, 1.20] not containing 0 and  $p = .003$ . Predictably, cognitive attribution varied amongst groups with variances being statistically significant.

Table 5.3 Turkey HSD: thinking styles influencing cognitive attribution

Conditions		MD	p-value	95% CI	
				LB	UB
Holistic	Analytic	1.56*	.000	1.07	2.06
Analytic	Control	-.86*	.000	-1.35	-.36
Holistic	Control	.71*	.003	.21	1.20

\*  $p < .05$

Source: Computed by the thesis writer

### *Thinking styles influencing perceived price fairness*

Computed results of single-factor ANOVA are illustrated in Table 5.4. As reflected in the table, perceived price fairness was significantly influenced by thinking styles,  $F(2, 168) = 30.07$ ,  $p < .001$  with  $\eta^2 = .26$ , i.e., effect size = large. In particular, perceived price fairness differed in relation to varying conditions of thinking styles (as depicted in Fig. 5.3). Aforementioned difference had statistical significance, given .05 alpha level. Computed  $\eta^2 = .26$  implies effect size was large and thinking styles (*IV*) caused 26% of the variance in perceived price fairness (*DV*). Moreover, it also implies meaningfulness as well as practical importance of the difference.

Table 5.4 ANOVA: thinking styles influencing perceived price fairness

Conditions	<i>M</i>	<i>SD</i>	<i>F</i>	p-value	$\eta^2$
Analytic	2.67	.82	30.07	.000*	.26
Control	3.12	.64			
Holistic	3.74	.75			

\*  $p < .05$

Source: Computed by the thesis writer

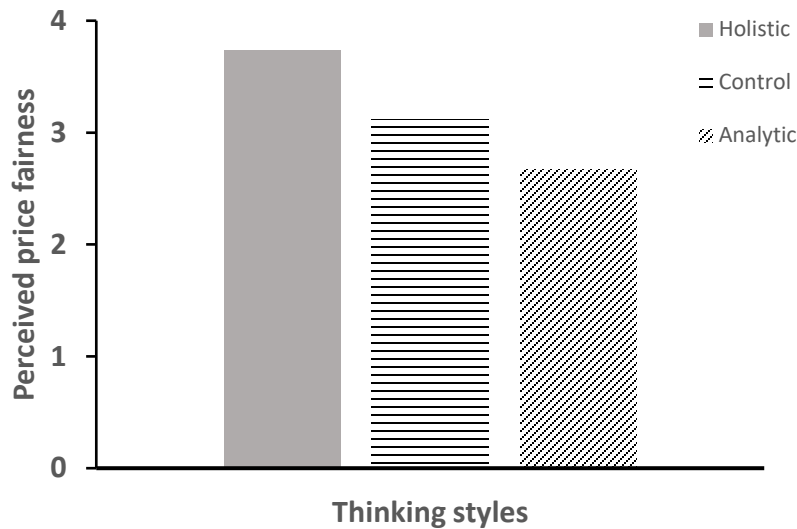


Fig. 5.3: Perceived price fairness with respect to thinking styles

Source: Illustrated by the thesis writer

Moreover, computed results of Tukey post hoc test are depicted in Table 5.5. Derived from the table, group pertaining to individuals manipulated holistically vis-à-vis group pertaining to individuals manipulated analytically displayed a significant perceived price fairness mean rise (1.07) from latter to former group with CI [.74, 1.40] not containing 0 and  $p < .001$ . Analogously, group pertaining to individuals manipulated analytically vis-à-vis group pertaining to control individuals displayed a significant perceived price fairness mean fall (.45) from latter to former group with CI [-.78, -.13] not containing 0 and  $p = .004$ . Correspondingly, group pertaining to individuals manipulated holistically vis-à-vis group pertaining to control individuals displayed a significant perceived price fairness mean rise (.62) from latter to former group with CI [.29, .94] not containing 0 and  $p < .001$ . Perceived price fairness varied amongst groups with variances being statistically significant. Predictably, higher perceived price fairness was detected in holistic thinkers group when compared with the analytic thinkers group, thus implied acceptance of H1.

Table 5.5 Turkey HSD: thinking styles influencing perceived price fairness

Conditions	MD	p-value	95% CI	
			LB	UB
Holistic      Analytic	1.07*	.000	.74	1.40

Analytic	Control	-.45*	.004	-.78	-.13
Holistic	Control	.62*	.000	.29	.94

\*  $p < .05$

Source: Computed by the thesis writer

***Thinking styles influencing perceived price fairness by means of cognitive attribution (mediation)***

Employing Hayes (2018) “PROCESS Model 4 with 5000 bootstrap samples and 95% bias–corrected CIs” (Newman et al., 2019, p. 88) H2 was tested. Table 5.6 illustrates computed results. Based on the table, IE of analytic thinking style on perceived price fairness by means of cognitive attribution = -.34 with the bootstrap CI being non-inclusive of 0 along completely below 0 (-.52 to -.18). Hence, abovementioned IE was significantly negative. Likewise, IE of holistic thinking style on perceived price fairness by means of cognitive attribution = .28 with the bootstrap CI being non-inclusive of 0 along completely above 0 (.12 to .45). Hence, abovementioned IE was significantly positive. Therefore, detection of anticipated effects of mediation implied acceptance of H2.

Table 5.6 Thinking styles influencing perceived price fairness by means of cognitive attribution: mediation

Way of influence	Estimation of parameter (SE)	CI
Bootstrapped IE		
Analytic thinking → Cognitive attribution → Perceived price fairness	-.34 (.09)	CI: -.52, -.18
Holistic thinking → Cognitive attribution → Perceived price fairness	.28 (.08)	CI: .12, .45

Source: Computed by the thesis writer

***Thinking styles influencing purchase intention***

Computed results of single-factor ANOVA are illustrated in Table 5.7. As reflected in the table, purchase intention was significantly influenced by thinking styles,  $F(2, 168) = 19.94, p < .001$  with  $\eta^2 = .19$ , i.e., effect size = large. In particular, purchase intention differed in relation to varying conditions of thinking styles (as depicted in Fig. 5.4). Aforementioned difference had statistical significance, given

.05 alpha level. Computed  $\eta^2 = .19$  implies effect size was large and thinking styles (IV) caused 19% of the variance in purchase intention (DV). Moreover, it also implies meaningfulness as well as practical importance of the difference.

Table 5.7 ANOVA: thinking styles influencing purchase intention

Conditions	<i>M</i>	<i>SD</i>	<b>F</b>	<b>p-value</b>	$\eta^2$
Analytic	2.56	1.03	19.94	.000*	.19
Control	3.27	1.20			
Holistic	3.85	1.04			

\*  $p < .05$

Source: Computed by the thesis writer

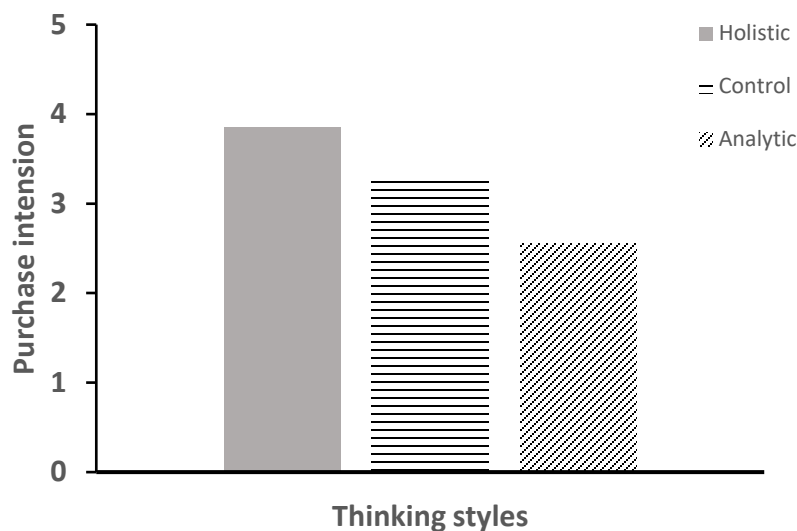


Fig. 5.4: Purchase intention with respect to thinking styles

Source: Illustrated by the thesis writer

Additionally, computed results of Tukey post hoc test are depicted in Table 5.8. Derived from the table, group pertaining to individuals manipulated holistically vis-à-vis group pertaining to individuals manipulated analytically displayed a significant purchase intention mean rise (1.29) from latter to former group with CI [.81, 1.78] not containing 0 and  $p < .001$ . Analogously, group pertaining to individuals manipulated analytically vis-à-vis group pertaining to control individuals displayed a significant purchase intention mean fall (.71) from latter to former group with CI [-1.20, -.23] not containing 0 and  $p = .002$ . Correspondingly, group pertaining to individuals manipulated holistically vis-à-vis group pertaining to control individuals displayed a significant purchase intention mean rise (.58) from latter to former group

with CI [.94, 1.06] not containing 0 and  $p = .015$ . Predictably, purchase intention varied amongst groups with variances being statistically significant.

Table 5.8 Turkey HSD: thinking styles influencing purchase intention

Conditions		MD	p-value	95% CI	
				LB	UB
Holistic	Analytic	1.29*	.000	.81	1.78
Analytic	Control	-.71*	.002	-1.20	-.23
Holistic	Control	.58*	.015	.94	1.06

\*  $p < .05$

Source: Computed by the thesis writer

### *Thinking styles influencing behavioural loyalty*

Computed results of single-factor ANOVA are illustrated in Table 5.9. As reflected in the table, behavioural loyalty was significantly influenced by thinking styles,  $F(2, 168) = 21.03$ ,  $p < .001$  with  $\eta^2 = .20$ , i.e., effect size = large. In particular, behavioural loyalty differed in relation to varying conditions of thinking styles (as depicted in Fig. 5.5). Aforementioned difference had statistical significance, given .05 alpha level. Computed  $\eta^2 = .20$  implies effect size was large and thinking styles (IV) caused 20% of the variance in behavioural loyalty (DV). Moreover, it also implies meaningfulness as well as practical importance of the difference.

Table 5.9 ANOVA: thinking styles influencing behavioural loyalty

Conditions	<i>M</i>	<i>SD</i>	<b>F</b>	<b>p-value</b>	$\eta^2$
Analytic	2.37	.90	21.03	.000*	.20
Control	2.90	.77			
Holistic	3.37	.79			

\*  $p < .05$

Source: Computed by the thesis writer



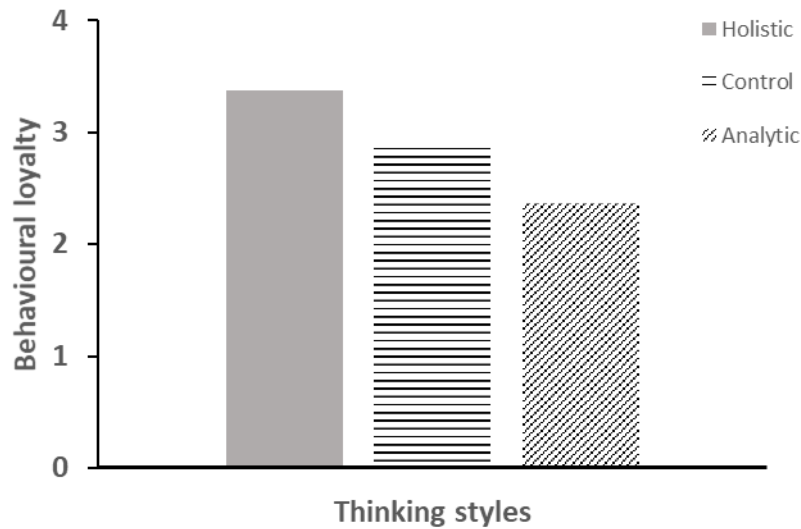


Fig. 5.5: Behavioural loyalty with respect to thinking styles  
Source: Illustrated by the thesis writer

Moreover, computed results of Tukey post hoc test are depicted in Table 5.10. Derived from the table, group pertaining to individuals manipulated holistically vis-à-vis group pertaining to individuals manipulated analytically displayed a significant behavioural loyalty mean rise (1.00) from latter to former group with CI [.64, 1.36] not containing 0 and  $p < .001$ . Analogously, group pertaining to individuals manipulated analytically vis-à-vis group pertaining to control individuals displayed a significant behavioural loyalty mean fall (.52) from latter to former group with CI [-.89, -.16] not containing 0 and  $p = .003$ . Correspondingly, group pertaining to individuals manipulated holistically vis-à-vis group pertaining to control individuals displayed a significant behavioural loyalty mean rise (.48) from latter to former group with CI [.11, .84] not containing 0 and  $p = .007$ . Predictably, behavioural loyalty varied amongst groups with variances being statistically significant.

Table 5.10 Turkey HSD: thinking styles influencing behavioural loyalty

Conditions		MD	p-value	95% CI	
				LB	UB
Holistic	Analytic	1.00*	.000	.64	1.36
Analytic	Control	-.52*	.003	-.89	-.16
Holistic	Control	.48*	.007	.11	.84

\*  $p < .05$

Source: Computed by the thesis writer

***Thinking styles influencing purchase intention by means of cognitive attribution and perceived price fairness (serial mediation)***

Employing Hayes (2018) “PROCESS Model 6 with 5000 bootstrap samples and 95% bias–corrected CIs” (Newman et al., 2019, p. 89) H3 was tested. Table 5.11 illustrates computed results. Based on the table, IE of analytic thinking style on purchase intention by means of cognitive attribution and perceived price fairness in serial =  $-.13$  with the bootstrap CI being non-inclusive of 0 along completely below 0 ( $-.24$  to  $-.04$ ). Hence, abovementioned IE was significantly negative. Likewise, IE of holistic thinking style on purchase intention by means of cognitive attribution and perceived price fairness in serial =  $.11$  with the bootstrap CI being non-inclusive of 0 along completely above 0 ( $.03$  to  $.23$ ). Hence, abovementioned IE was significantly positive. Therefore, detection of anticipated effects of serial mediation implied acceptance of H3.

Table 5.11 Thinking styles influencing purchase intention by means of cognitive attribution and perceived price fairness: serial mediation

Way of influence	Estimation of parameter (SE)	CI
Bootstrapped IE		
Analytic thinking → Cognitive attribution → Perceived price fairness → Purchase intention	$-.13$ (.05)	CI: $-.24$ , $-.04$
Holistic thinking → Cognitive attribution → Perceived price fairness → Purchase intention	$.11$ (.05)	CI: $.03$ , $.23$

Source: Computed by the thesis writer

***Thinking styles influencing behavioural loyalty by means of cognitive attribution and perceived price fairness (serial mediation)***

Employing Hayes (2018) “PROCESS Model 6 with 5000 bootstrap samples and 95% bias–corrected CIs” (Newman et al., 2019, p. 89) H4 was tested. Table 5.12 illustrates computed results. Based on the table, IE of analytic thinking style on behavioural loyalty by means of cognitive attribution and perceived price fairness in serial =  $-.15$  with the bootstrap CI being non-inclusive of 0 along completely below

0 (-.27 to -.07). Hence, abovementioned IE was significantly negative. Likewise, IE of holistic thinking style on behavioural loyalty by means of cognitive attribution and perceived price fairness in serial = .13 with the bootstrap CI being non-inclusive of 0 along completely above 0 (.04 to .25). Hence, abovementioned IE was significantly positive. Therefore, detection of anticipated effects of serial mediation implied acceptance of H4.

Table 5.12 Thinking styles influencing behavioural loyalty by means of cognitive attribution and perceived price fairness: serial mediation

Way of influence	Estimation of parameter ( <i>SE</i> )	CI
Bootstrapped IE		
Analytic thinking → Cognitive attribution → Perceived price fairness → Behavioural loyalty	-.15 (.05)	CI: -.27, -.07
Holistic thinking → Cognitive attribution → Perceived price fairness → Behavioural loyalty	.13 (.05)	CI: .04, .25

Source: Computed by the thesis writer

### 5.3 Discussion

Replication of the study 1 outcomes occurred in study 2 in relation to a different kind of service with a more typical sample. “Additionally, results suggest styles of thinking shape cognitive attribution, then influence price fairness perceptions thereby affecting purchase intention. Current findings and Yu et al. (2018) research results (indicating consumers’ attribution of blame influences their purchase intention in case of Chinese consumers) are congruent. Specifically, it was shown holistically-manipulated consumers with higher cognitive attribution perceived the increase of price as more fair in compared to those manipulated to think analytically. Greater perceptions of price fairness among holistically-manipulated consumers lead to higher purchase intention in compared to analytically-manipulated consumers. Laufer and Coombs (2006) study also demonstrated similar results where consumers who attributed blame of a negative incident to a brand were less prone to buy their products. The findings are congruous with various prior studies indicating higher perceptions of price fairness lead to greater purchase intention. Wang and Chen (2016) found that perceptions of price fairness significantly

influence buying intention in a positive direction in Taiwan's low-cost carriers' context. Using Turkish consumers as respondents and considering organic food, Konuk (2018) also showed positive association among intentions of purchase and price fairness. Similar positive impact was also reported by Setiawan et al. (2016) considering Indonesia's low-cost cars" (Shaw et al., 2022, p. 220). Koschate-Fischer et al. (2016) indicated perceived price fairness provides more instantaneous reaction in comparison with downstream variable e.g. purchase intention, when rise in prices occurs.

Moreover, outcomes suggest thinking styles affect cognitive attribution, then shape price fairness perceptions, in that way influence behavioural loyalty. Present findings and Choi and Cai (2015) research results (indicating consumers' causal attribution influences their loyalty in case of American consumers) are congruent. Osakwe and Yusuf (2021) also indicated that attribution formation variables and attribution outcomes (such as, loyalty) are connected in complex manner beyond direct impact involving mediators. Precisely, it was displayed holistically-manipulated consumers with higher cognitive attribution perceived the rise of price as more fair in compared to those manipulated to think analytically. Vaster perceptions of price fairness amid holistically-manipulated consumers lead to greater behavioural loyalty in compared to analytically-manipulated consumers. Vidal (2012) study in France's retail perspective also displayed similar outcomes where customers who ascribed responsibility of a negative occurrence to service/product providers show lower loyalty. Utilising American customers as participants, Pennycook et al. (2014) research exhibited similar outcomes where loyalty being part of binding moral values and analytic thinking are negatively correlated. The outcomes are congruent with several preceding research works demonstrating vaster perceptions of price fairness lead to larger loyalty. Asadi et al. (2014) obtained that perceptions of price fairness significantly sway loyalty in a direction that is positive in nature regarding Iran's tourism context. Using Taiwanese gamers as respondents and considering online gaming, Liaoa et al. (2020) also showed positive association among loyalty and price fairness. Chung and Petrick (2013) in U.S.'s domestic airline perspective and Hassan et al. (2013) considering Pakistan's telecom firms also reported similar positive impact.

## **6. STUDY 3**

### **6.1 Research objective, methodology and data**

#### **6.1.1 Research objective**

The experimental study 3 four-folded objectives were: 1) to examine whether there is any cultural differences (eastern vs. western) in perceived price fairness

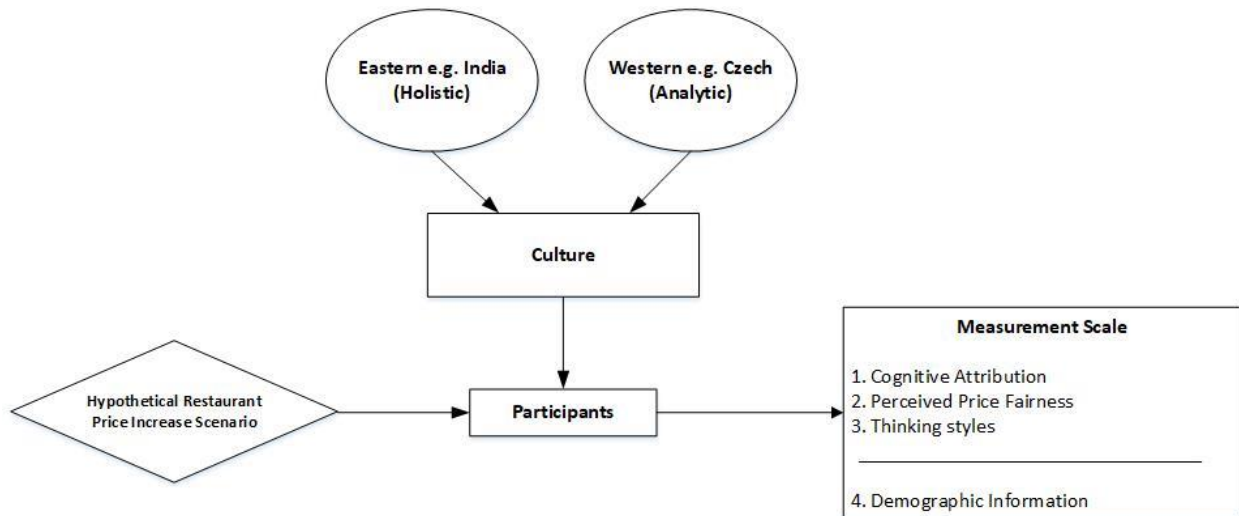
(H5), 2) to test the mediating role that cognitive attribution plays in the association amid perceived price fairness and culture (H6), 3) to access whether cultural variances in cognitive attribution can be ascribed to thinking styles (H7), 4) to access whether cultural variances in perceived price fairness can be ascribed to thinking styles (H8).

### **6.1.2 Design and sample**

Hypotheses H5, H6, H7 and H8 were tested via experimental study 3. Participants in the experiment from the Czech Republic and India were regarded as representatives of Western and Eastern cultures individually. “Power analysis using statistical package G\*power was performed to get the necessary sample size. In G\*power tool, – the following options were selected”: t tests, ‘Means: Difference between two independent means’ and ‘A priori’ power analysis (Shaw et al., 2022, p. 215). Result exhibited 128 “as the total sample size, given medium effect size, 80% statistical power, and 0.05 significance level” (Shaw et al., 2022, p. 215). Convenience sampling method was deployed to choose participants. Participants’ qualification criteria was set of having the restaurants food for atleast two times in a week. 130 university students from the Czech Republic and India took part in this experimental study in the period of April 2019 to July 2019. Amid them, male and female participants were 64% (83) and 36% (47) individually. Amid participants greater part of them (51) belong to group of 21 to 30 age (39%).

### **6.1.3 Procedures and measures**

Study 3 comprised of two parts – i) Participants were requested to read subsequent hypothetical scenario of price increase occurrence related to a restaurant: “Imagine you want to visit a restaurant for dining. You visit the website of the restaurant, which you usually avail. During reservation process, you discover that the price of the food that you ordered last time has increased”. ii) Participants completed perceived price fairness, cognitive attribution, thinking styles measurement scales including specific demographic information.



*Fig. 6.1: Research methods of study 3*  
*Source: Illustrated by the thesis writer*

All measurement scales used in this study are same as study 1. In addition, thinking styles measurement was done in the same way as that of pretest1. Details related to Czech version of the measures are provided in Appendix C (Czech), Appendix D (Czech), Appendix E (Czech) and Appendix I (Czech).

## **6.2 Results**

### **6.2.1 Assumptions check of study 3**

As part of the initial check, Study 3 design fulfilled the first 3 independent-samples t-test assumptions, i.e, (i) dependent variable is continuous, (ii) categorical independent variable, (iii) independent observations. Details of checking other 3 assumptions can be found below.

#### ***Cognitive attribution in perspective of culture***

As evaluated via boxplot, no outliers were there. Moreover, as measured via Shapiro-Wilk test, the individual group's data (easterner = .182; westerner = .054) followed normal distribution. Furthermore, as evaluated via Levene's test ( $p = .332$ ) homogeneity of variances was there.

#### ***Perceived price fairness in perspective of culture***

As evaluated via boxplot, no outliers were there. Moreover, as measured via Shapiro-Wilk test, the individual group's data (easterner = .272; westerner = .187)

followed normal distribution. Furthermore, as evaluated via Levene's test ( $p = .614$ ) homogeneity of variances was there.

### ***Cognitive attribution in perspective of thinking styles***

As evaluated via boxplot, no outliers were there. Moreover, as measured via Shapiro-Wilk test, the individual group's data (holistic = .246; analytic = .096) followed normal distribution. Furthermore, as evaluated via Levene's test ( $p = .130$ ) homogeneity of variances was there.

### ***Perceived price fairness in perspective of thinking styles***

As evaluated via boxplot, no outliers were there. Moreover, as measured via Shapiro-Wilk test, the individual group's data (holistic = .056; analytic = .279) followed normal distribution. Furthermore, as evaluated via Levene's test ( $p = .123$ ) homogeneity of variances was there.

## **6.2.2 Study 3 analysis**

Accordance with the Table 6.1, the computed Cronbach's  $\alpha$ , i.e., .897, .895, and .744 pertaining to thinking styles, perceived price fairness, and cognitive attribution individually confirm that the measurements are internally consistent with acceptable level.

Table 6.1 Measurement variables with  $\alpha$  coefficient

<b>Measure</b>	<b><math>\alpha</math> coefficient</b>
Thinking styles	.897
Perceived price fairness	.895
Cognitive attribution	.744

Source: Computed by the thesis writer

### ***Culture influencing cognitive attribution***

Table 6.2 illustrates independent samples t-test findings. As reflected in the table, cognitive attribution was significantly influenced by culture,  $t(128) = 4.34$ ,  $p < .001$  with  $d = .80$ , i.e., effect size = large. In particular, cognitive attribution differed in relation to varying cultures (as depicted in Fig. 6.2). Aforementioned difference had statistical significance, given .05 alpha level. Computed  $d = .80$  implies effect size was large and two groups' means differ by .8 standard deviations. Moreover, it also implies meaningfulness as well as practical importance of the difference. Easterners

mean cognitive attribution was .84, 95% CI [.46 to 1.22] higher than westerners mean cognitive attribution.

Table 6.2 t-test: culture influencing cognitive attribution

Culture	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i> -value	<i>d</i>
Easterner	4.15	1.18	4.34	.000*	.80
Westerner	3.31	1.02			

\*  $p < .05$

Source: Computed by the thesis writer

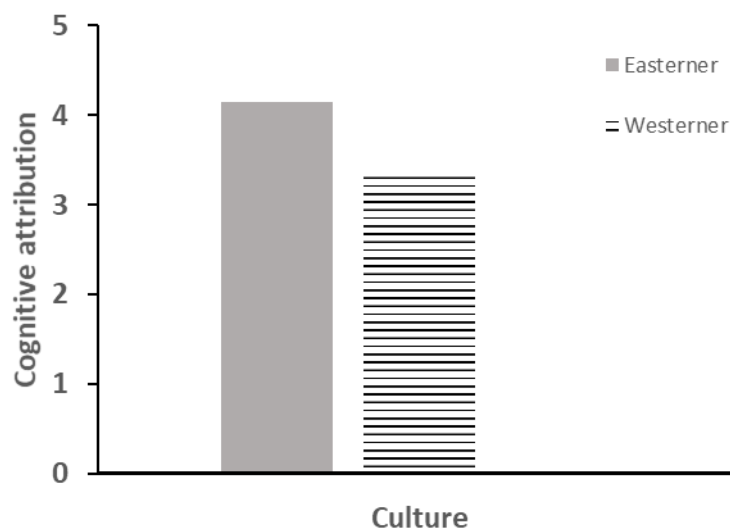


Fig. 6.2: Cognitive attribution with respect to cultures

Source: Illustrated by the thesis writer

### ***Culture influencing perceived price fairness***

Table 6.3 illustrates independent samples t-test findings. As reflected in the table, perceived price fairness was significantly influenced by culture,  $t(128) = 2.71$ ,  $p = .008$  with  $d = .50$ , i.e., effect size = medium. In particular, perceived price fairness differed in relation to varying cultures (as depicted in Fig. 6.3). Aforementioned difference had statistical significance, given .05 alpha level. Computed  $d = .50$  implies effect size was medium and two groups' means differ by .5 standard deviations. Moreover, it also implies meaningfulness as well as practical importance of the difference. Easterners mean perceived price fairness was .41, 95% CI [.11 to .71] higher than westerners mean perceived price fairness. H5 is accepted.



Table 6.3 t-test: culture influencing perceived price fairness

Culture	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i> -value	<i>d</i>
Easterner	3.21	.84	2.71	.008*	.50
Westerner	2.80	.89			

\* $p < .05$

Source: Computed by the thesis writer

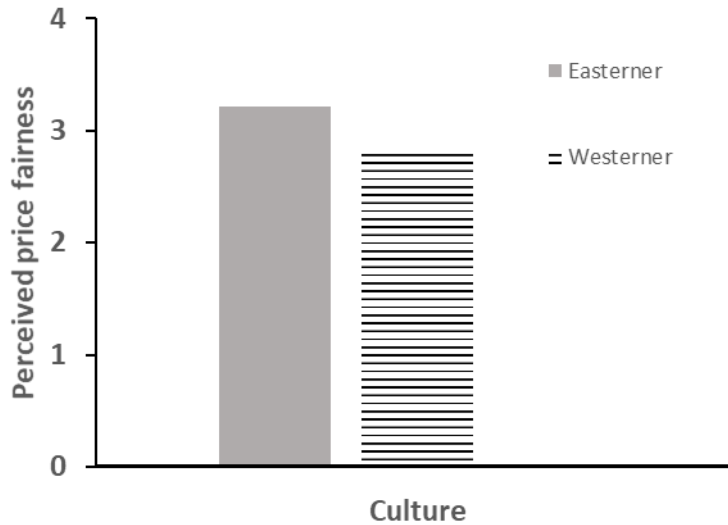


Fig. 6.3: Perceived price fairness with respect to cultures

Source: Illustrated by the thesis writer

### ***Culture influencing perceived price fairness by means of cognitive attribution (mediation)***

Employing Hayes (2018) “PROCESS Model 4 with 5000 bootstrap samples and 95% bias–corrected CIs” (Newman et al., 2019, p. 88) H6 was tested. Table 6.4 illustrates computed results. Based on the table, IE of culture on perceived price fairness by means of cognitive attribution = .24 with the bootstrap CI being non-inclusive of 0 along completely above 0 (.06 to .43). Hence, abovementioned IE was significantly positive. Therefore, detection of anticipated effect of mediation implied acceptance of H6.

Table 6.4 Culture influencing perceived price fairness by means of cognitive attribution: mediation

Way of influence	Estimation of parameter ( <i>SE</i> )	CI
------------------	---------------------------------------	----

Bootstrapped IE		
Culture → Cognitive attribution → Perceived price fairness	.24 (.09)	CI: .06, .43

Source: Computed by the thesis writer

Without regard to culture, analytic and holistic thinkers groups were obtained by conducting a median split on thinking styles measure for presenting supplementary proof that variances in cultures can be ascribed to thinking styles. The aforementioned groups' comparisons on cognitive attribution and fairness perception pertaining to price should imitate the variances in cultures amid Westerners and Easterners.

### *Thinking styles influencing cognitive attribution*

Table 6.5 illustrates independent samples t-test findings. As reflected in the table, cognitive attribution was significantly influenced by thinking styles,  $t(128) = 2.55$ ,  $p = .012$  with  $d = .45$ , i.e., effect size = fairly medium. In particular, cognitive attribution differed in relation to varying thinking styles (as depicted in Fig. 6.4). Aforementioned difference had statistical significance, given .05 alpha level. Computed  $d = .45$  implies effect size was fairly medium and two groups' means differ by .45 standard deviations. Moreover, it also implies meaningfulness as well as practical importance of the difference. Holistic thinkers' mean cognitive attribution was .52, 95% CI [.12 to .92] higher than their analytic counterparts. H7 is accepted.

Table 6.5 t-test: thinking styles influencing cognitive attribution

Thinking styles	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i> -value	<i>d</i>
Holistic	3.99	1.28	2.55	.012*	.45
Analytic	3.47	1.01			

\*  $p < .05$

Source: Computed by the thesis writer

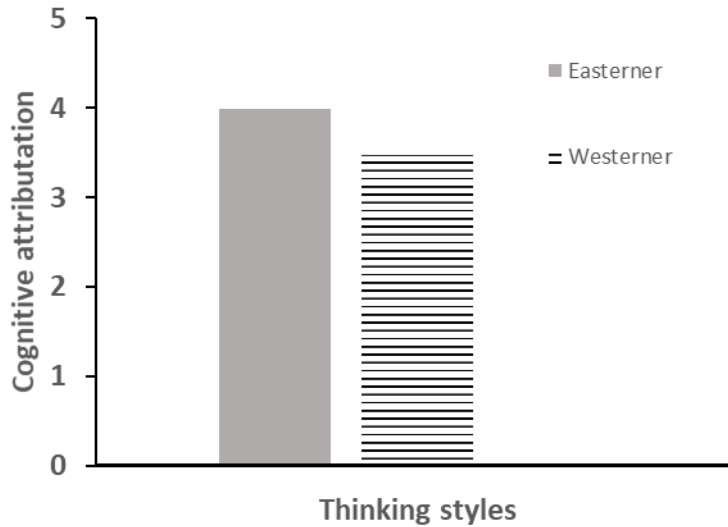


Fig. 6.4: Cognitive attribution with respect to thinking styles  
Source: Illustrated by the thesis writer

### ***Thinking styles influencing perceived price fairness***

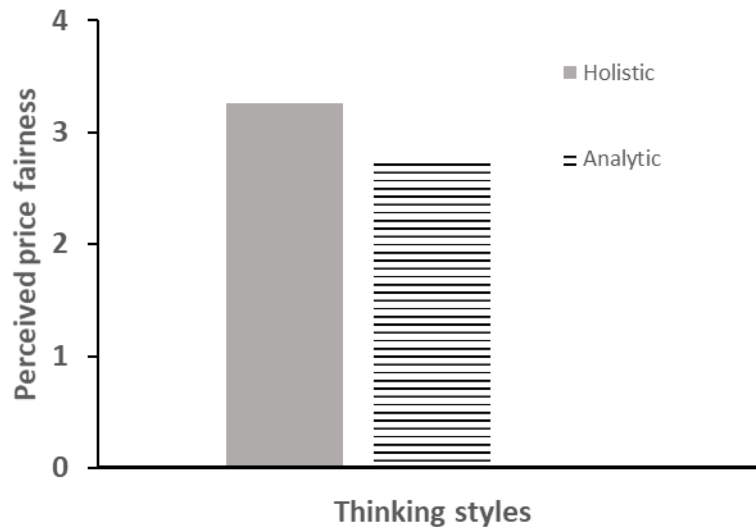
Table 6.6 illustrates independent samples t-test findings. As reflected in the table, perceived price fairness was significantly influenced by thinking styles,  $t(128) = 3.47, p = .001$  with  $d = .61$ , i.e., effect size = medium to large. In particular, perceived price fairness differed in relation to varying thinking styles (as depicted in Fig. 6.5). Aforementioned difference had statistical significance, given .05 alpha level. Computed  $d = .61$  implies effect size was medium to large and two groups' means differ by .61 standard deviations. Moreover, it also implies meaningfulness as well as practical importance of the difference. Holistic thinkers' mean perceived price fairness was .52, 95% CI [.22 to .81] than analytic thinkers' mean perceived price fairness. H8 is accepted.

Table 6.6 t-test: thinking styles influencing perceived price fairness

Thinking styles	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i> -value	<i>d</i>
Holistic	3.26	.93	3.47	.001*	.61
Analytic	2.74	.76			

\*  $p < .05$

Source: Computed by the thesis writer



*Fig. 6.5: Perceived price fairness with respect to thinking styles*

*Source: Illustrated by the thesis writer*

### 6.3 Discussion

Results from study 3 confirm that cultural differences in perceived price fairness exist. Easterners (Indians) perceive a price increase as fairer than Westerners (Czechs). Current findings are concordant with Bolton et al. (2010) research that employing Chinese and U.S. customers as participants, exhibited differences in price fairness perceptions with respect to culture. Analogously, Shavitt and Barnes (2020) indicated differences in pricing practices fairness are shaped by culture. Mattila and Patterson (2004) also specified cultural influence on fairness perceptions. Cognitive attribution plays a part of mediator in the relationship between culture and perceived price fairness. Culture influence cognitive attribution thereby affect perceived price fairness. Differences are anticipated to emerge due to cultural differences in thinking styles, with Westerners depicted as analytic thinkers are less prone to consider external influences while inferring causes of a negative and/or undesirable incident thereby resulting in lesser cognitive attribution and perceived price fairness. Oppositely, Easterners depicted as holistic thinkers are more prone to consider external influences while inferring causes of a negative and/or undesirable incident thereby resulting in larger cognitive attribution and perceived price fairness. Regardless of culture, comparing the groups of holistic and analytic thinkers gave identical pattern of outcomes, providing support for the association of thinking styles with cultural variations in cognitive attribution as well as perceived price fairness. These outcomes are concordant with Monga and John (2007), who recruiting U.S and Indian university students, presented association between cultural differences and thinking styles.

## **7. STUDY 4**

### **7.1 Research objective, methodology and data**

#### **7.1.1 Research objective**

This study provides the first demonstration of the role of culture on purchase intention, and behavioural loyalty influenced by cognitive attribution as well as, in turn, perceived price fairness. The experimental study 4 five-folded objectives were: 1) to examine whether the culture (easterner vs. westerner) influence on purchase intention is serially mediated through cognitive attribution in addition to perceived price fairness (H9), 2) to examine whether the impact of culture (easterner vs. westerner) on behavioural loyalty is serially mediated through cognitive attribution in addition to perceived price fairness (H10), 3) to access whether cultural variances in purchase intention can be ascribed to thinking styles (H11), 4) to access whether cultural variances in behavioural loyalty can be ascribed to thinking styles (H12), 5) to replicate study 3 on a non-student sample that generally represents the Indian and Czech population along with extending the causal relationships by including a more managerially pertinent consequence variables, i.e. purchase intention and behavioural loyalty, 6) to use budget hotel as the service connected to the price increase occurrence (compared to restaurant in study 3). Hence, aiming to verify the generalisation of study 3 results, an unlike kind of service with a more typical non-student sample was used.

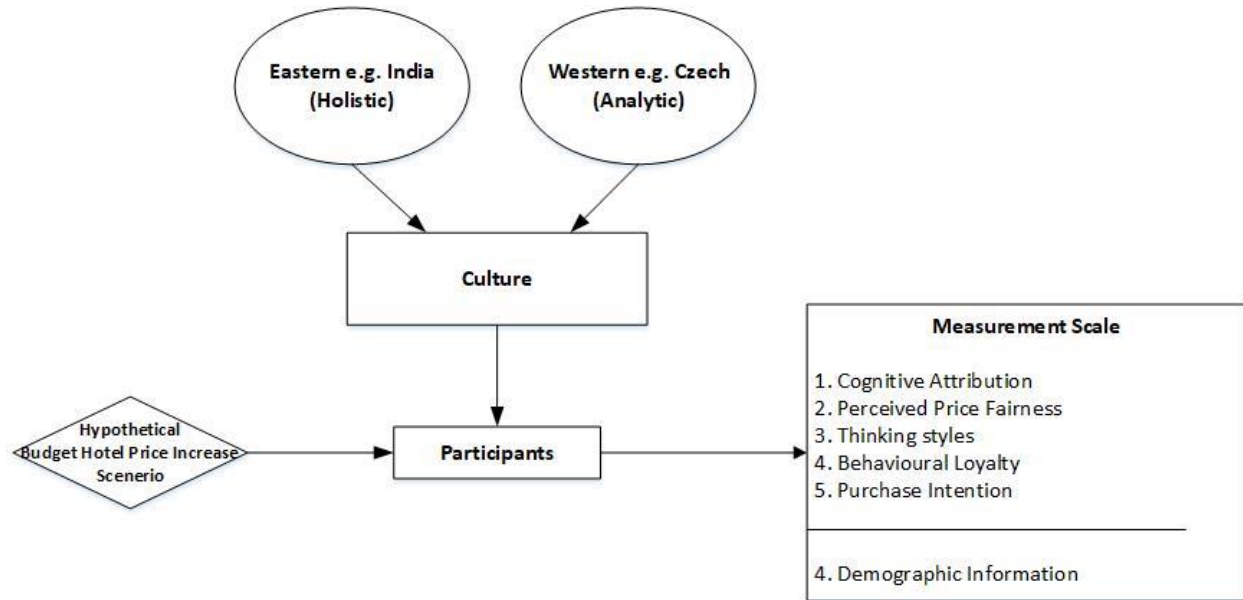
#### **7.1.2 Design and sample**

Hypothesis H5 – H12 were examined via experimental study 4. Participants in the online experiment from the Czech Republic and India were regarded as representatives of Western and Eastern cultures individually. The necessary sample size is same as study 3. Convenience sampling method was deployed to choose participants. Participants' qualification criteria was set of having the experiences of staying in budget hotels for atleast more than once in 6 months. 153 respondents from the Czech Republic and India took part in this experimental study in the course of January 2021 to April 2021. The experiment was conducted both offline as well as online and anonymity of the participants was maintained. Amid them, female and male participants were 55% (84) and 45% (69) individually. Amid participants greater part of them (88) belong to group of 31 to 40 age (58%).

#### **7.1.3 Procedures and measures**

Similar to study 3, this experimental study also consisted of two parts –i) Participants were requested to peruse subsequent hypothetical scenario of price

increase occurrence related to a budget hotel: “Imagine you require to book a budget hotel for a leisure intent. You visit the website for budget hotel, which you usually avail. During the process of hotel booking, you find out that the price has increased relative to last time though location, room type, booking season, facilities and amenities are same as your last booking”. ii) Participants finished perceived price fairness, cognitive attribution, thinking styles, purchase intention, and behavioural loyalty measurement scales together with specific demographic information.



*Fig. 7.1: Research methods of study 4*

*Source: Illustrated by the thesis writer*

Apart from thinking styles, all measurement scales used in this study are same as study 2 with modification according to the context of budget hotel. Thinking styles measurement was done in the same way as that of pretest1. Additional details regarding Czech version of measures other than those mentioned in study 3 are provided in Appendix F (Czech) and Appendix G (Czech).

## 7.2 Results

### 7.2.1 Assumptions check of study 4

As part of the initial check, study 4 design fulfilled the first 3 independent-samples t-test assumptions. Details of checking other 3 assumptions can be found below.

### ***Cognitive attribution in perspective of culture***

As evaluated via boxplot, no outliers were there. Moreover, as measured via Shapiro-Wilk test, the individual group's data (easterner = .051; westerner = .414) followed normal distribution. Furthermore, as evaluated via Levene's test ( $p = .898$ ) homogeneity of variances was there.

### ***Perceived price fairness in perspective of culture***

As evaluated via boxplot, no outliers were there. Moreover, as measured via Shapiro-Wilk test, the individual group's data (easterner = .062; westerner = .479) followed normal distribution. Furthermore, as evaluated via Levene's test ( $p = .432$ ) homogeneity of variances was there.

### ***Purchase intention in perspective of culture***

As evaluated via boxplot, no outliers were there. Moreover, as measured via Shapiro-Wilk test, the individual group's data (easterner = .290; westerner = .059) followed normal distribution. Furthermore, as evaluated via Levene's test ( $p = .836$ ) homogeneity of variances was there.

### ***Behavioural loyalty in perspective of culture***

As evaluated via boxplot, no outliers were there. Moreover, as measured via Shapiro-Wilk test, the individual group's data (easterner = .067; westerner = .076) followed normal distribution. Furthermore, as evaluated via Levene's test ( $p = .404$ ) homogeneity of variances was there.

### ***Cognitive attribution in perspective of thinking styles***

As evaluated via boxplot, no outliers were there. Moreover, as measured via Shapiro-Wilk test, the individual group's data (holistic = .137; analytic = .437) followed normal distribution. Furthermore, as evaluated via Levene's test ( $p = .222$ ) homogeneity of variances was there.

### ***Perceived price fairness in perspective of thinking styles***

As evaluated via boxplot, no outliers were there. Moreover, as measured via Shapiro-Wilk test, the individual group's data (holistic = .154; analytic = .754) followed normal distribution. Furthermore, as evaluated via Levene's test ( $p = .309$ ) homogeneity of variances was there.

### ***Purchase intention in perspective of thinking styles***

As evaluated via boxplot, no outliers were there. Moreover, as measured via Shapiro-Wilk test, the individual group's data (holistic = .273; analytic = .154) followed normal distribution. Furthermore, as evaluated via Levene's test ( $p = .479$ ) homogeneity of variances was there.

### ***Behavioural loyalty in perspective of thinking styles***

As evaluated via boxplot, no outliers were there. Moreover, as measured via Shapiro-Wilk test, the individual group's data (holistic = .202; analytic = .187) followed normal distribution. Furthermore, as evaluated via Levene's test ( $p = .830$ ) homogeneity of variances was there.

## **7.2.2 Study 4 analysis**

Accordance with the Table 7.1, the computed Cronbach's  $\alpha$ , i.e., .915, .844, .750, .816, and .708 pertaining to thinking styles, behavioural loyalty, purchase intention, perceived price fairness, and cognitive attribution individually confirm that the measurements are internally consistent with acceptable level.

Table 7.1 Measurement variables with  $\alpha$  coefficient

Measure	$\alpha$ coefficient
Thinking styles	.915
Behavioural loyalty	.844
Purchase intention	.750
Perceived price fairness	.816
Cognitive attribution	.708

Source: Computed by the thesis writer

### ***Culture influencing cognitive attribution***

Table 7.2 illustrates independent samples t-test findings. As reflected in the table, cognitive attribution was significantly influenced by culture,  $t(151) = 5.47$ ,  $p < .001$  with  $d = .88$ , i.e., effect size = large. In particular, cognitive attribution differed in relation to varying cultures (as depicted in Fig. 7.2). Aforementioned difference had statistical significance, given .05 alpha level. Computed  $d = .88$  implies effect size was large and two groups' means differ by .88 standard deviations. Moreover, it also implies meaningfulness as well as practical importance of the difference. Easterners mean cognitive attribution was .94, 95% CI [.60 to 1.28] higher than westerners mean cognitive attribution.



Table 7.2 t-test: culture influencing cognitive attribution

Culture	<i>M</i>	<i>SD</i>	<i>t</i>	p-value	<i>d</i>
Easterner	4.11	1.05	5.47	.000*	.88
Westerner	3.16	1.08			

\* $p < .05$

Source: Computed by the thesis writer

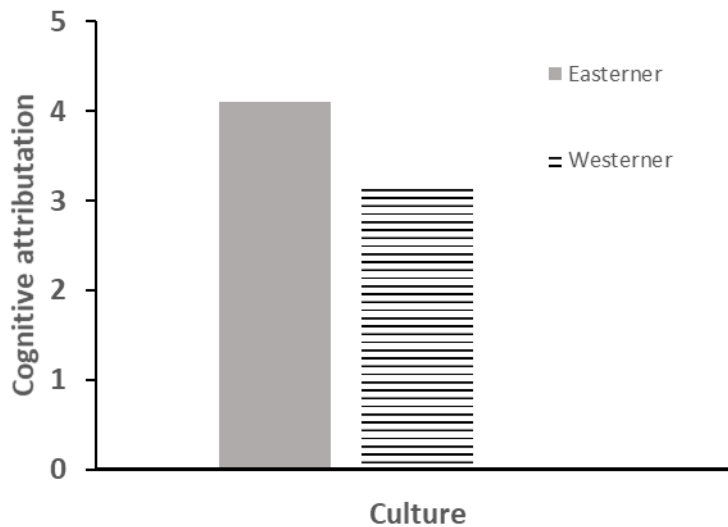


Fig. 7.2: Cognitive attribution with respect to cultures

Source: Illustrated by the thesis writer

### ***Culture influencing perceived price fairness***

Table 7.3 illustrates independent samples t-test findings. As reflected in the table, perceived price fairness was significantly influenced by culture,  $t(151) = 5.51$ ,  $p < .001$  with  $d = .89$ , i.e., effect size = large. In particular, perceived price fairness differed in relation to varying cultures (as depicted in Fig. 7.3). Aforementioned difference had statistical significance, given .05 alpha level. Computed  $d = .89$  implies effect size was large and two groups' means differ by .89 standard deviations. Moreover, it also implies meaningfulness as well as practical importance of the difference. Easterners mean perceived price fairness was .66, 95% CI [.42 to .90] higher than westerners mean perceived price fairness. H5 is accepted.

Table 7.3 t-test: culture influencing perceived price fairness

Culture	<i>M</i>	<i>SD</i>	<i>t</i>	p-value	<i>d</i>
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Easterner	3.41	.76	5.51	.000*	.89
Westerner	2.71	.72			

\*  $p < .05$

Source: Computed by the thesis writer

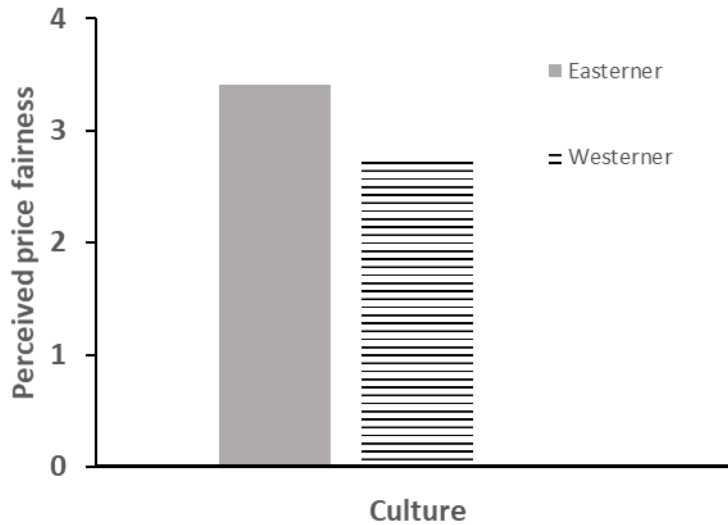


Fig. 7.3: Perceived price fairness with respect to cultures

Source: Illustrated by the thesis writer

### ***Culture influencing perceived price fairness by means of cognitive attribution (mediation)***

Employing Hayes (2018) “PROCESS Model 4 with 5000 bootstrap samples and 95% bias–corrected CIs” (Newman et al., 2019, p. 88) H6 was tested. Table 7.4 illustrates computed results. Based on the table, IE of culture on perceived price fairness by means of cognitive attribution = .38 with the bootstrap CI being non-inclusive of 0 along completely above 0 (.22 to .55). Hence, abovementioned IE was significantly positive. Therefore, detection of anticipated effect of mediation implied acceptance of H6.

Table 7.4 Culture influencing perceived price fairness by means of cognitive attribution: mediation

Way of influence	Estimation of parameter (SE)	CI
Bootstrapped IE		

Culture → Cognitive attribution → Perceived price fairness	.38 (.08)	CI: .22, .55
--	-----------	--------------

Source: Computed by the thesis writer

### *Culture influencing purchase intention*

Table 7.5 illustrates independent samples t-test findings. As reflected in the table, purchase intention was significantly influenced by culture,  $t(151) = 4.74$ ,  $p < .001$  with  $d = .77$ , i.e., effect size = fairly large effect size. In particular, purchase intention differed in relation to varying cultures (as depicted in Fig. 7.4). Aforementioned difference had statistical significance, given .05 alpha level. Computed  $d = .77$  implies effect size was fairly large and two groups' means differ by .77 standard deviations. Moreover, it also implies meaningfulness as well as practical importance of the difference. Easterners mean purchase intention was .73, 95% CI [.42 to 1.03] higher than westerners mean purchase intention.

Table 7.5 t-test: culture influencing purchase intention

Culture	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i> -value	<i>d</i>
Easterner	3.44	.95	4.74	.000*	.77
Westerner	2.71	.94			

\*  $p < .05$

Source: Computed by the thesis writer

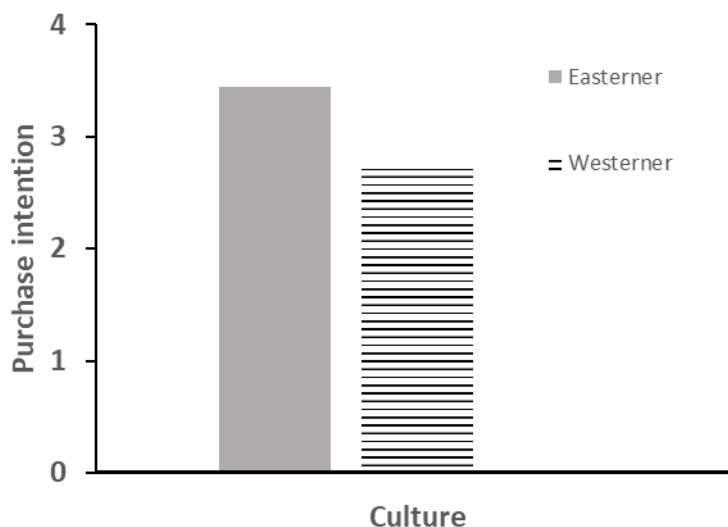


Fig. 7.4: Purchase intention with respect to cultures

Source: Illustrated by the thesis writer

### ***Culture influencing behavioural loyalty***

Table 7.6 illustrates independent samples t-test findings. As reflected in the table, behavioural loyalty was significantly influenced by culture,  $t(151) = 5.51$ ,  $p < .001$  with  $d = .89$ , i.e., effect size = large. In particular, behavioural loyalty differed in relation to varying cultures (as depicted in Fig. 7.5). Aforementioned difference had statistical significance, given .05 alpha level. Computed  $d = .89$  implies effect size was large and two groups' means differ by .89 standard deviations. Moreover, it also implies meaningfulness as well as practical importance of the difference. Easterners mean behavioural loyalty was .70, 95% CI [.45 to .94] higher than westerners mean behavioural loyalty.

Table 7.6 t-test: culture influencing behavioural loyalty

<b>Culture</b>	<b><i>M</i></b>	<b><i>SD</i></b>	<b><i>t</i></b>	<b><i>p</i>-value</b>	<b><i>d</i></b>
Easterner	3.21	.75	5.51	.000*	.89
Westerner	2.52	.81			

\*  $p < .05$

Source: Computed by the thesis writer

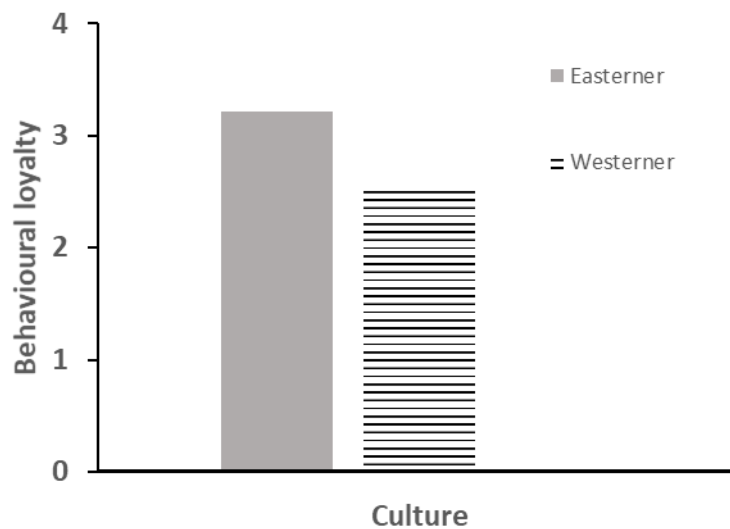


Fig. 7.5: Behavioural loyalty with respect to cultures

Source: Illustrated by the thesis writer

***Culture influencing purchase intention by means of cognitive attribution and perceived price fairness (serial mediation)***

Employing Hayes (2018) “PROCESS Model 6 with 5000 bootstrap samples and 95% bias–corrected CIs” (Newman et al., 2019, p. 89) H9 was tested. Table 7.7 illustrates computed results. Based on the table, IE of culture on purchase intention by means of cognitive attribution and perceived price fairness in serial = .13 with the bootstrap CI being non-inclusive of 0 along completely above 0 (.05 to .23). Hence, abovementioned IE was significantly positive. Therefore, detection of anticipated effect of serial mediation implied acceptance of H9.

Table 7.7 Culture influencing purchase intention by means of cognitive attribution and perceived price fairness: serial mediation

Way of influence	Estimation of parameter (SE)	CI
Bootstrapped IE		
Culture → Cognitive attribution → Perceived price fairness → Purchase intention	.13 (.05)	CI: .05, .23

Source: Computed by the thesis writer

***Culture influencing behavioural loyalty by means of cognitive attribution and perceived price fairness (serial mediation)***

Employing Hayes (2018) “PROCESS Model 6 with 5000 bootstrap samples and 95% bias–corrected CIs” (Newman et al., 2019, p. 89) H10 was tested. Table 7.8 illustrates computed results. Based on the table, IE of culture on behavioural loyalty by means of cognitive attribution and perceived price fairness in serial = .14 with the bootstrap CI being non-inclusive of 0 along completely above 0 (.06 to .25). Hence, abovementioned IE was significantly positive. Therefore, detection of anticipated effect of serial mediation implied acceptance of H10.

Table 7.8 Culture influencing behavioural loyalty by means of cognitive attribution and perceived price fairness: serial mediation

Way of influence	Estimation of parameter (SE)	CI
Bootstrapped IE		
Culture → Cognitive attribution → Perceived price fairness → Behavioural loyalty	.14 (.05)	CI: .06, .25

Source: Computed by the thesis writer

Without regard to culture, analytic and holistic thinkers groups were obtained by conducting a median split on thinking styles measure for presenting supplementary proof that variances in cultures can be ascribed to thinking styles. The aforementioned groups' comparisons on cognitive attribution, fairness perception pertaining to price, behavioural loyalty, and purchase intention should imitate the variances in cultures amid Westerners and Easterners.

### *Thinking styles influencing cognitive attribution*

Table 7.9 illustrates independent samples t-test findings. As reflected in the table, cognitive attribution was significantly influenced by thinking styles,  $t(151) = 2.58$ ,  $p = .011$  with  $d = .42$ , i.e., effect size = fairly medium. In particular, cognitive attribution differed in relation to varying thinking styles (as depicted in Fig. 7.6). Aforementioned difference had statistical significance, given .05 alpha level. Computed  $d = .42$  implies effect size was fairly medium and two groups' means differ by .42 standard deviations. Moreover, it also implies meaningfulness as well as practical importance of the difference. Holistic thinkers' mean cognitive attribution was .48, 95% CI [.11 to .84] higher than their analytic counterparts. H7 is accepted.

Table 7.9 t-test: thinking styles influencing cognitive attribution

Thinking styles	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p-value</i>	<i>d</i>
Holistic	3.86	1.20	2.58	.011*	.42
Analytic	3.39	1.08			

\* $p < .05$

Source: Computed by the thesis writer

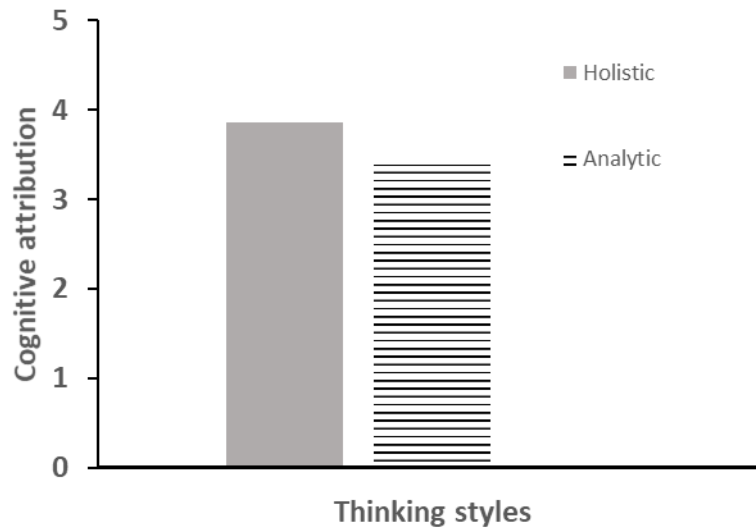


Fig. 7.6: Cognitive attribution with respect to thinking styles  
Source: Illustrated by the thesis writer

### ***Thinking styles influencing perceived price fairness***

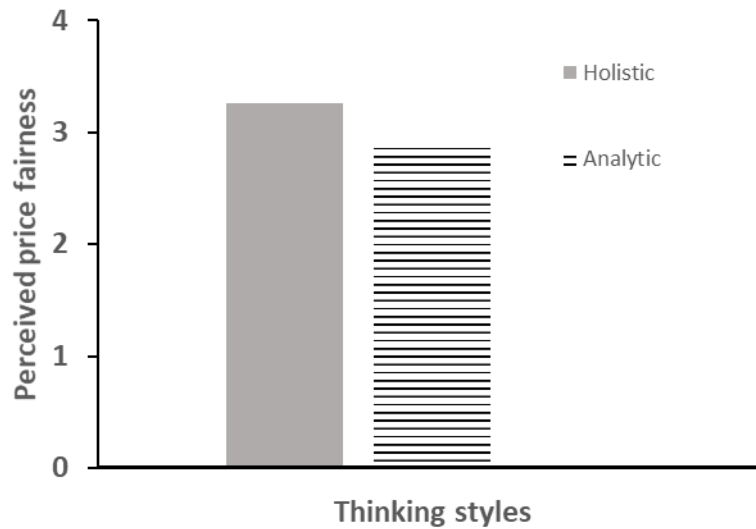
Table 7.10 illustrates independent samples t-test findings. As reflected in the table, perceived price fairness was significantly influenced by thinking styles,  $t(151) = 2.99, p = .003$  with  $d = .50$ , i.e., effect size = medium. In particular, perceived price fairness differed in relation to varying thinking styles (as depicted in Fig. 7.7). Aforementioned difference had statistical significance, given .05 alpha level. Computed  $d = .50$  implies effect size was medium and two groups' means differ by .50 standard deviations. Moreover, it also implies meaningfulness as well as practical importance of the difference. Holistic thinkers mean perceived price fairness was .38, 95% CI [.13 to .63] higher than analytic thinkers mean perceived price fairness. H8 is accepted.

Table 7.10 t-test: thinking styles influencing perceived price fairness

Thinking styles	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i> -value	<i>d</i>
Holistic	3.26	.83	2.99	.003*	.50
Analytic	2.88	.75			

\*  $p < .05$

Source: Computed by the thesis writer



*Fig. 7.7: Perceived price fairness with respect to thinking styles*

*Source: Illustrated by the thesis writer*

### ***Thinking styles influencing purchase intention***

Table 7.11 illustrates independent samples t-test findings. As reflected in the table, purchase intention was significantly influenced by thinking styles,  $t(151) = 2.54$ ,  $p = .012$  with  $d = .41$ , i.e., effect size = fairly medium. In particular, purchase intention differed in relation to varying thinking styles (as depicted in Fig. 7.8). Aforementioned difference had statistical significance, given .05 alpha level. Computed  $d = .41$  implies effect size was fairly medium and two groups' means differ by .41 standard deviations. Moreover, it also implies meaningfulness as well as practical importance of the difference. Holistic thinkers mean purchase intention was .41, 95% CI [.09 to .73] higher than analytic thinkers mean purchase intention. H11 is accepted.

Table 7.11 t-test: thinking styles influencing purchase intention

Thinking styles	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p-value</i>	<i>d</i>
Holistic	3.27	1.05	2.54	.012*	.41
Analytic	2.86	.94			

\*  $p < .05$

Source: Computed by the thesis writer



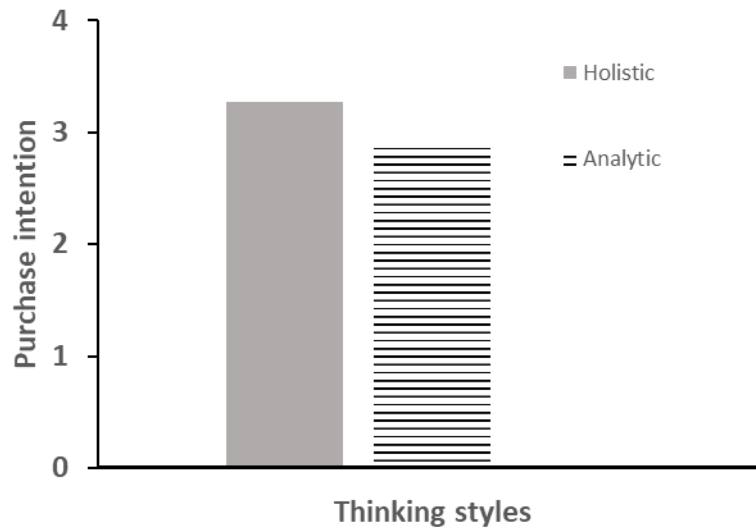


Fig. 7.8: Purchase intention with respect to thinking styles

Source: Illustrated by the thesis writer

### ***Thinking styles influencing behavioural loyalty***

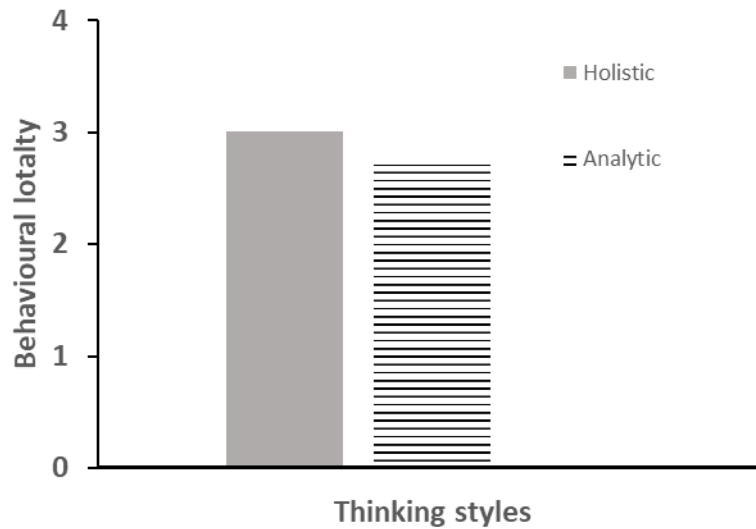
Table 7.12 illustrates independent samples t-test findings. As reflected in the table, behavioural loyalty was significantly influenced by thinking styles,  $t(151) = 2.20, p = .029$  with  $d = .40$ , i.e., effect size = fairly medium. In particular, behavioural loyalty differed in relation to varying thinking styles (as depicted in Fig. 7.9). Aforementioned difference had statistical significance, given .05 alpha level. Computed  $d = .40$  implies effect size was fairly medium and two groups' means differ by .40 standard deviations. Moreover, it also implies meaningfulness as well as practical importance of the difference. Holistic thinkers mean behavioural loyalty was .30, 95% CI [.03 to .57] higher than analytic thinkers mean behavioural loyalty. H12 is accepted.

Table 7.12 t-test: thinking styles influencing behavioural loyalty

Thinking styles	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p-value</i>	<i>d</i>
Holistic	3.01	0.84	2.20	.029*	.40
Analytic	2.71	0.84			

\*  $p < .05$

Source: Computed by the thesis writer



*Fig. 7.9: Behavioural loyalty with respect to thinking styles*  
*Source: Illustrated by the thesis writer*

### 7.3 Discussion

Replication of the study 3 outcomes occurred in study 4 in relation to a different kind of service with a more typical sample. Moreover, results from study 4 confirm that cultural differences in consumers' purchase intention exist. Easterners (Indians) exhibit higher purchase intentions than Westerners (Czechs) in a price increase context. Current findings are concordant with Kahttab et al. (2012) research that exhibited differences in online purchase intention with respect to culture employing Jordanians. customers as respondents. These outcomes are concordant with Sreen et al. (2017) research that reported cultural influence on purchase intention considering products that are green in nature. Lee (2017) also showed impact of culture on green buying intention among Chinese consumers. Cognitive attribution plays a part of mediator in the relationship between culture and perceived price fairness. Moreover, results suggest culture affect cognitive attribution, then shape price fairness perceptions, in that way influence purchase intention. Differences are anticipated to emerge due to cultural differences in thinking styles, with Westerns depicted as analytic thinkers are less prone to consider external influences while inferring causes of a negative and/or undesirable incident thereby resulting in lesser cognitive attribution, perceived price fairness, and purchase intention. Oppositely, Easterners depicted as holistic thinkers are more prone to consider external influences while inferring causes of a negative and/or undesirable incident thereby resulting in larger cognitive attribution, perceived price fairness, and purchase intention. Without regard to culture, comparing the groups of holistic and analytic thinkers gave

identical pattern of outcomes, providing support for the association of thinking styles with cultural variations in cognitive attribution as well as perceived price fairness along purchase intention.

Additionally, results from study 4 confirm that cultural differences in consumers' behavioural loyalty exist. Easterners (Indians) exhibit higher behavioural loyalty than Westerners (Czechs) in a price increase context. "The analytic-holistic thinking framework and the individualism-collectivism framework have similar cultural antecedents—many versus few social relationships. Both frameworks predict that individualistic (analytic) cultures are less context dependent than collectivist (holistic) cultures" (Monga and John, 2008, p. 329). Hence, exant research showing relationship between individualism-collectivism and and loyalty can be used for assessing consistency of current findings. The outcomes are in line with Han et al. (2017) research that indicated cultural influence (individualism vs. collectivism) on loyalty. Leslie and Korzenny (2015) also exhibited brand loyalty predicted by culture. Moreover, results suggest culture affect cognitive attribution, then shape price fairness perceptions, in that way influence behavioural loyalty. The findings are concordant with several previous studies indicating Easterners exhibit higher behavioural loyalty than Westerners . Yoo (2009) found that individualist consumers exhibit weaker brand loyalty than collectivists in Korean and American consumers' case. Kim et al. (2002) also showed stronger loyalty among collectivists than individualists. Using consumers from France, Australia, USA, South Korea and considering retailing, Albers-Miller and Straughan (2000) also reported negative association among loyalty and cultural individualism. Differences are anticipated to emerge due to cultural differences in thinking styles, with Westerns depicted as analytic thinkers are less prone to consider external influences while inferring causes of a negative and/or undesirable incident thereby resulting in lesser cognitive attribution, perceived price fairness, and behavioural loyalty. Oppositely, Easterners depicted as holistic thinkers are more prone to consider external influences while inferring causes of a negative and/or undesirable incident thereby resulting in larger cognitive attribution, perceived price fairness, and behavioural loyalty. These outcomes are congruous with Frost et al. (2010), who indicated individualism and collectivism influence e-loyalty via middle variable. considering products that are green in nature Regardless of culture, comparing the groups of holistic and analytic thinkers gave identical pattern of outcomes, providing support for the association of thinking styles with cultural variations in cognitive attribution as well as perceived price fairness along behavioural loyalty and purchase intention. These outcomes are concordant with Monga and John (2007), who recruiting U.S and Indian university students, presented association between cultural differences and thinking styles.

## **8. STUDY 5**

### **8.1 Research objective, methodology and data**

#### **8.1.1 Research objective**

The experimental study 5 provides the first demonstration of the role of need for closure (high vs. low) on purchase intention, and behavioural loyalty influenced by cognitive attribution as well as, in turn, perceived price fairness. It had four objectives. First, it investigated whether need for closure affects perceived price fairness, so as in comparison with high need for closure individuals, their low counterparts perceive a price augmentation as more fair (H13). Second, it tested the mediating role that cognitive attribution plays in the association amid need for closure and perceived price fairness (H14). Third, it examined whether the impact of need for closure on purchase intention is serially mediated through cognitive attribution in addition to perceived price fairness (H15). Fourth, it checked whether the impact of need for closure on behavioural loyalty is serially mediated through cognitive attribution in addition to perceived price fairness (H16). This study provides the first demonstration of the role of need for closure on purchase intention, and behavioural loyalty influenced by cognitive attribution as well as, in turn, perceived price fairness.

#### **8.1.2 Design and sample**

Hypothesis H13 – H16 were examined via experimental study 5. Participants in this experiment were assigned to either high need for closure, control or low need for closure condition randomly. Not like the other two groups, participants in control group didn't get any need for closure manipulation. The necessary sample size is same as study 1. "As a first step, information was spread via word-of-mouth, e-mail communications, online forums and social media to find people willing to participate in this experiment voluntary. As a second step, participants having frequent experience (i.e. atleast once a week) of using car rental services were only qualified. Participants were chosen using a simple random sampling method. The sample consists of participants throughout India, mostly from tier-1 cities (where population as well as living costs are high). Consumers from tier-1 cities frequently use car rental services. The experiment was conducted online and anonymity of the participants was maintained" (Shaw et al., 2022, p. 215). Lastly, 162 Indian participants participated in this experimental study during October 2021 – January 2022. Amid them, female and male participants were 51% (83) and 49% (79) individually. Amid participants greater part of them (77) belong to group of 21 to 30 age (48%).

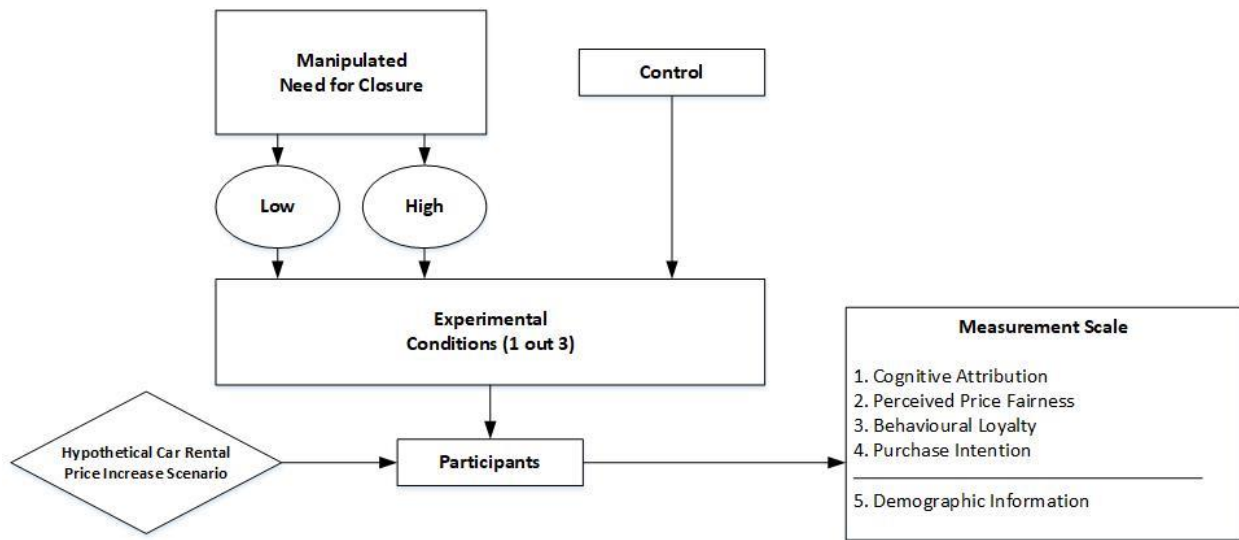
### **8.1.3 Need for closure manipulation**

Need for closure was manipulated via time pressure by the way of directives given to the participants. Participants required 12 minutes on average to finish the experiment. Participants assigned to the high need for closure group were informed: “You have 12 minutes to finish the measures. Most individuals require 15 minutes to do it. If you work quickly, you can complete in 12 minutes. We will remind you of the time each 3 minutes”. Participants assigned to low need for closure group were informed: “You have 12 minutes to finish the measures. Most individuals require 9 minutes to do it. Take your time. We will inform you when time is finished”. Participants in each group were provided 12 minutes. Nonetheless, participants in the low need for closure group were incited to think that they had adequate time, while participants in the high need for closure group were incited to think that they required speeding up to complete the job (Chiu et al., 2000).

### **8.1.4 Procedures and measures**

Pretest2 with  $n=32$  was performed to verify effectiveness of aforementioned manipulation procedure. After completing the manipulation job then the participants responded to a fifteen-item need for closure measurement having six-point Likert scale. Instance of an item utilised in need for closure measurement: “I don’t like situations that are uncertain.” (Roets and van Hiel, 2011, p. 92). Details are provided in Appendix H (English).

The main experimental study contained three sections – i) the technique state in “Need for closure manipulation” segment was utilised to manipulate need for closure. “ii) Participants were asked to read following hypothetical scenario of price increase event in context of a car rental: Imagine you need to rent a car for a travel purpose. You get to the website for rental car, which you commonly use. During the procedure of car booking, you discover that the price has increased compared to last time though pick-up station, destination, car category and car configuration are same as your last booking. iii) Participants completed perceived price fairness, cognitive attribution, purchase intention”, and behavioural loyalty measurement scales with certain demographic information (Shaw et al., 2022, p. 216).



*Fig. 8.1: Research methods of study 5*

*Source: Illustrated by the thesis writer*

All measurement scales used in this study are same as study 2.

## 8.2 Results

### 8.2.1 Assumptions check of pretest2 manipulation analysis

As part of the initial check, Study 5 design fulfilled the first 3 independent-samples t-test assumptions. Details of checking other 3 assumptions can be found below.

#### *Need for closure measurement scale*

As evaluated via boxplot, no outliers were there. Moreover, as measured via Shapiro-Wilk test, the individual group's data (low = .078; high = .100) followed normal distribution. Furthermore, as evaluated via Levene's test ( $p = .181$ ) homogeneity of variances was there.

### 8.2.2 Pretest manipulation check

Accordance with the Table 8.1, the computed Cronbach's  $\alpha$  pertaining to need for closure measurement ( $\alpha = .941$ ) confirms that the measurement is internally consistent with acceptable level.

Table 8.1 Measurement variable with  $\alpha$  coefficient

Measure	$\alpha$ coefficient
Need for closure	.941

Source: Computed by the thesis writer

***Need for closure influencing need for closure measurement scale***

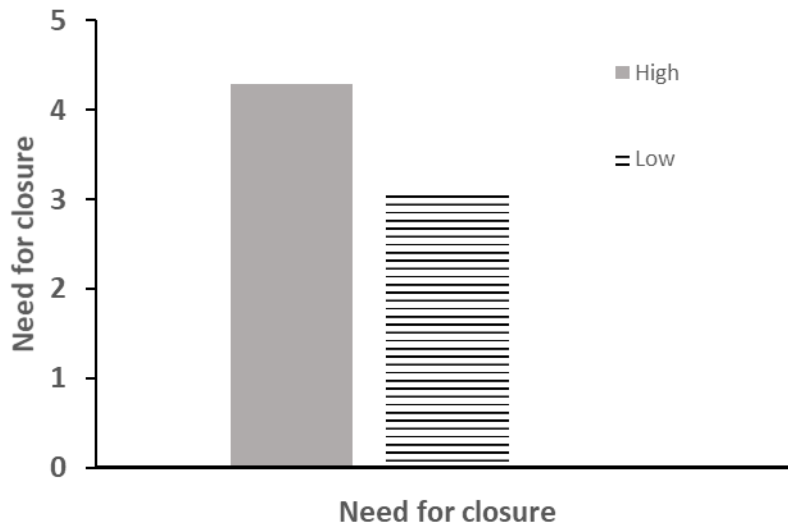
Table 8.2 (independent samples t-test results) shows in the need for closure measurement scale, low need for closure manipulated participants obtained significantly lower than their high need for closure manipulated participants ( $M_{\text{low}} = 3.09$ ,  $M_{\text{high}} = 4.29$ ),  $t(30) = 4.19$ ,  $p < .001$  with  $d = 1.48$ , i.e., effect size = large (as depicted in Fig. 8.2). Specifically, need for closure measurement scale was statistically significantly different for high and low need for closure manipulated participants, given .05 alpha level. Computed  $d = 1.48$  implies effect size was large and two groups' means differed by 1.48 standard deviations. Moreover, it also implies meaningfulness as well as practical importance of the difference. Thus implied adequate manipulation technique.

Table 8.2 t-test: need for closure influencing need for closure measurement scale

Conditions	$M$	$SD$	$t$	p-value	$d$
High	4.29	.70	4.19	.000*	1.48
Low	3.09	.91			

\*  $p < .05$

Source: Computed by the thesis writer



*Fig. 8.2: Need for closure measurement scale with respect to low and high need for closure manipulated participants*

*Source: Illustrated by the thesis writer*

### **8.2.3 Assumptions check of study 5**

As part of the initial check, Study 5 design fulfilled the first 3 ANOVA analysis assumptions. Details of checking other 3 assumptions can be found below.

#### ***Cognitive attribution***

As evaluated via boxplot, no outliers were there. Moreover, as measured via Shapiro-Wilk test, the individual group's data (low = .090; control = .067; high = .052) followed normal distribution. Furthermore, as evaluated via Levene's test ( $p = .871$ ) homogeneity of variances was there.

#### ***Perceived price fairness***

As evaluated via boxplot, no outliers were there. Moreover, as measured via Shapiro-Wilk test, the individual group's data (low = .173; control = .407; high = .111) followed normal distribution. Furthermore, as evaluated via Levene's test ( $p = .192$ ) homogeneity of variances was there.

#### ***Purchase intention***

As evaluated via boxplot, no outliers were there. Moreover, as measured via Shapiro-Wilk test, the individual group's data (low = .078; control = .736; high =



.299) followed normal distribution. Furthermore, as evaluated via Levene's test ( $p = .080$ ) homogeneity of variances was there.

### ***Behavioural loyalty***

As evaluated via boxplot, no outliers were there. Moreover, as measured via Shapiro-Wilk test, the individual group's data (low = .353; control = .200; high = .138) followed normal distribution. Furthermore, as evaluated via Levene's test ( $p = .090$ ) homogeneity of variances was there.

### **8.2.4 Study 5 analysis**

Accordance with the in Table 8.3, Cronbach's  $\alpha$ , i.e., .854, .723, .879, and .717 pertaining to behavioural loyalty, purchase intention, perceived price fairness, and cognitive attribution individually confirm that the measurements are internally consistent with acceptable level.

Table 8.3 Measurement variables with  $\alpha$  coefficient

<b>Measure</b>	<b><math>\alpha</math> coefficient</b>
Behavioural loyalty	.854
Purchase intention	.723
Perceived price fairness	.879
Cognitive attribution	.717

Source: Computed by the thesis writer

### ***Need for closure influencing cognitive attribution***

Computed results of single-factor ANOVA are illustrated in Table 8.4. As reflected in the table, cognitive attribution was significantly influenced by need for closure,  $F(2, 159) = 22.53$ ,  $p < .001$  with  $\eta^2 = .22$ , i.e., effect size = large. In particular, cognitive attribution differed in relation to varying conditions of need for closure (as depicted in Fig. 8.3). Aforementioned difference had statistical significance, given .05 alpha level. Computed  $\eta^2 = .22$  implies effect size was large and need for closure (*IV*) caused 22% of the variance in cognitive attribution (*DV*). Moreover, it also implies meaningfulness as well as practical importance of the difference.

Table 8.4 ANOVA: need for closure influencing cognitive attribution

Conditions	<i>M</i>	<i>SD</i>	<i>F</i>	<i>p</i> -value	$\eta^2$
High	3.21	1.03	22.53	.000*	.22
Control	3.74	.98			
Low	4.49	.98			

\*  $p < .05$

Source: Computed by the thesis writer

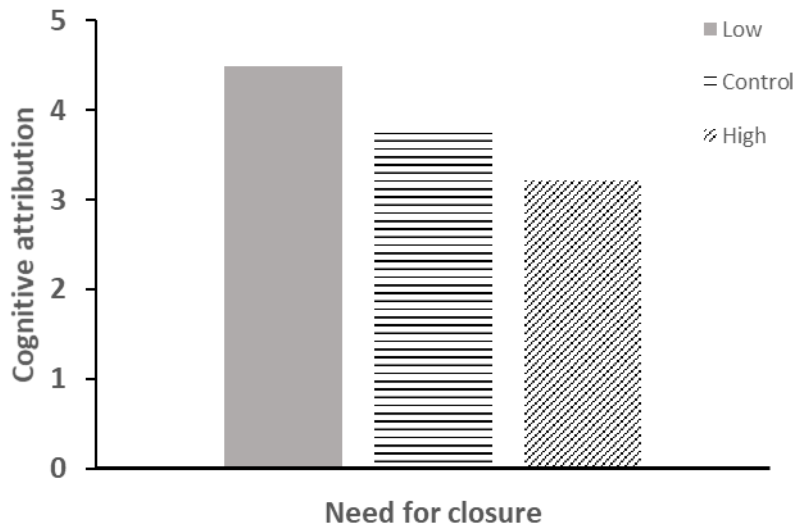


Fig. 8.3: Cognitive attribution with respect to need for closure

Source: Illustrated by the thesis writer

Additionally, computed results of Tukey post hoc test are depicted in Table 8.5. Derived from the table, group pertaining to individuals manipulated with low need for closure vis-à-vis group pertaining to individuals manipulated with high need for closure displayed a significant cognitive attribution mean rise (1.28) from latter to former group with CI [.83, 1.74] not containing 0 and  $p < .001$ . Analogously, group high need for closure manipulated group vis-à-vis control group displayed a significant cognitive attribution mean fall (.53) from latter to former group with CI [-.99, -.08] not containing 0 and  $p = .017$ . Correspondingly, low need for closure manipulated group vis-à-vis control group displayed a significant cognitive attribution mean rise (.75) from latter to former group with CI [.30, 1.20] not containing 0 and  $p < .001$ . Predictably, cognitive attribution varied amongst groups with variances being statistically significant.

Table 8.5 Turkey HSD: need for closure influencing cognitive attribution

Conditions		MD	p-value	95% CI	
				LB	UB
Low	High	1.28*	.000	.83	1.74
High	Control	-.53*	.017	-.99	-.08
Low	Control	.75*	.000	.30	1.20

\* $p < .05$

Source: Computed by the thesis writer

### *Need for closure influencing perceived price fairness*

Computed results of single-factor ANOVA are illustrated in Table 8.6. As reflected in the table, perceived price fairness was significantly influenced by need for closure,  $F(2, 159) = 13.62$ ,  $p < .001$  with  $\eta^2 = .15$ , i.e., effect size = large. In particular, perceived price fairness differed in relation to varying conditions of need for closure (as depicted in Fig. 8.4). Aforementioned difference had statistical significance, given .05 alpha level. Computed  $\eta^2 = .15$  implies effect size was large and need for closure (IV) caused 15% of the variance in perceived price fairness (DV). Moreover, it also implies meaningfulness as well as practical importance of the difference.

Table 8.6 ANOVA: need for closure influencing perceived price fairness

Conditions	<i>M</i>	<i>SD</i>	<b>F</b>	<b>p-value</b>	<b><math>\eta^2</math></b>
Low	3.68	.76	13.62	.000*	.15
Control	3.27	.74			
High	2.87	.92			

\* $p < .05$

Source: Computed by the thesis writer

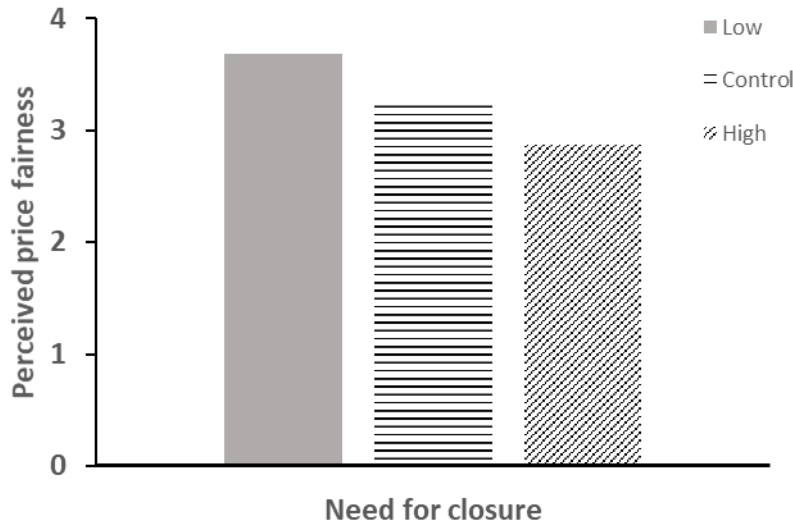


Fig. 8.4: Perceived price fairness with respect to need for closure  
Source: Illustrated by the thesis writer

Additionally, computed results of Tukey post hoc test are depicted in Table 8.7. Derived from the table, group pertaining to individuals manipulated with low need for closure vis-à-vis group pertaining to individuals manipulated with high need for closure displayed a significant perceived price fairness mean rise (.81) from latter to former group with CI [.45, 1.18] not containing 0 and  $p < .001$ . Analogously, group high need for closure manipulated group vis-à-vis control group displayed a significant perceived price fairness mean fall (.40) from latter to former group with CI [-.77, -.03] not containing 0 and  $p = .031$ . Correspondingly, low need for closure manipulated group vis-à-vis control group displayed a significant perceived price fairness mean rise (.42) from latter to former group with CI [.05, .79] not containing 0 and  $p = .023$ . Perceived price fairness varied amongst groups with variances being statistically significant. Predictably, low need for closure group showed greater perceived price fairness than the high need for closure group. H13 is accepted.

Table 8.7 Turkey HSD: need for closure influencing perceived price fairness

Conditions		MD	p-value	95% CI	
				LB	UB
Low	High	.81*	.000	.45	1.18
High	Control	-.40*	.031	-.77	-.03
Low	Control	.42*	.023	.05	.79

\*  $p < .05$

Source: Computed by the thesis writer

***Need for closure influencing perceived price fairness by means of cognitive attribution (mediation)***

Employing Hayes (2018) “PROCESS Model 4 with 5000 bootstrap samples and 95% bias–corrected CIs” (Newman et al., 2019, p. 88) H14 was tested. Table 8.8 illustrates computed results. Based on the table, IE of high need for closure on perceived price fairness by means of cognitive attribution =  $-.28$  with the bootstrap CI being non-inclusive of 0 along completely below 0 ( $-.51$  to  $-.08$ ). Hence, abovementioned IE was significantly negative. Likewise, IE of low need for closure on perceived price fairness by means of cognitive attribution =  $.39$  with the bootstrap CI being non-inclusive of 0 along completely above 0 ( $.19$  to  $.59$ ). Hence, abovementioned IE was significantly positive. Therefore, detection of anticipated effects of mediation implied acceptance of H14.

Table 8.8 Need for closure influencing perceived price fairness by means of cognitive attribution: mediation

Way of influence	Estimation of parameter (SE)	CI
Bootstrapped IE		
High need for closure → Cognitive attribution → Perceived price fairness	$-.28 (.11)$	CI: $-.51, -.08$
Low need for closure → Cognitive attribution → Perceived price fairness	$.39 (.10)$	CI: $.19, .59$

Source: Computed by the thesis writer

***Need for closure influencing purchase intention***

Computed results of single-factor ANOVA are illustrated in Table 8.9. As reflected in the table, purchase intention was significantly influenced by need for closure,  $F(2, 159) = 12.04$ ,  $p < .001$  with  $\eta^2 = .13$ , i.e., effect size = fairly large. In particular, purchase intention differed in relation to varying conditions of need for closure (as depicted in Fig. 8.5). Aforementioned difference had statistical significance, given .05 alpha level. Computed  $\eta^2 = .13$  implies effect size was fairly large and need for closure (IV) caused 13% of the variance in purchase intention (DV). Moreover, it also implies meaningfulness as well as practical importance of the difference.

Table 8.9 ANOVA: need for closure influencing purchase intention

Conditions	<i>M</i>	<i>SD</i>	<i>F</i>	<i>p</i> -value	$\eta^2$
Low	4.40	.98	12.04	.000*	.13
Control	3.85	1.21			
High	3.30	1.30			

\*  $p < .05$

Source: Computed by the thesis writer

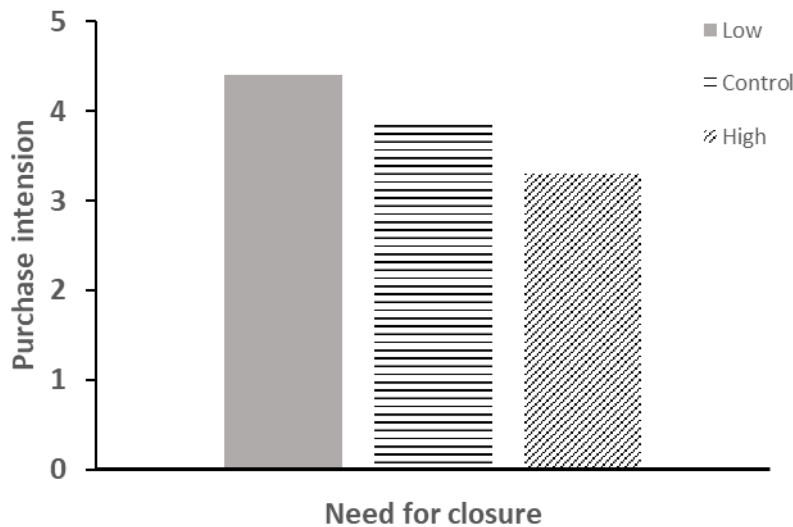


Fig. 8.5: Purchase intention with respect to need for closure

Source: Illustrated by the thesis writer

Additionally, computed results of Tukey post hoc test are depicted in Table 8.10. Derived from the table, group pertaining to individuals manipulated with low need for closure vis-à-vis group pertaining to individuals manipulated with high need for closure displayed a significant purchase intention mean rise (1.10) from latter to former group with CI [.57, 1.64] not containing 0 and  $p < .001$ . Analogously, group high need for closure manipulated group vis-à-vis control group displayed a significant purchase intention mean fall (.56) from latter to former group with CI [-1.09, -.02] not containing 0 and  $p = .039$ . Correspondingly, low need for closure manipulated group vis-à-vis control group displayed a significant purchase intention mean rise (.55) from latter to former group with CI [.02, 1.08] not containing 0 and  $p = .042$ . Predictably, purchase intention varied amongst groups with variances being statistically significant.

Table 8.10 Turkey HSD: need for closure influencing purchase intention

Conditions		MD	p-value	95% CI	
				LB	UB
Low	High	1.10*	.000	.57	1.64
High	Control	-.56*	.039	-1.09	-.02
Low	Control	.55*	.042	.02	1.08

\*  $p < .05$

Source: Computed by the thesis writer

### *Need for closure influencing behavioural loyalty*

Computed results of single-factor ANOVA are illustrated in Table 8.11. As reflected in the table, behavioural loyalty was significantly influenced by need for closure,  $F(2, 159) = 21.59$ ,  $p < .001$  with  $\eta^2 = .21$ , i.e., effect size = large. In particular, behavioural loyalty differed in relation to varying conditions of need for closure (as depicted in Fig. 8.6). Aforementioned difference had statistical significance, given .05 alpha level. Computed  $\eta^2 = .21$  implies effect size was large and need for closure (*IV*) caused 21% of the variance in behavioural loyalty (*DV*). Moreover, it also implies meaningfulness as well as practical importance of the difference.

Table 8.11 ANOVA: need for closure influencing behavioural loyalty

Conditions	<i>M</i>	<i>SD</i>	<b>F</b>	<b>p-value</b>	$\eta^2$
Low	3.49	.70	21.59	.000*	.21
Control	3.03	.67			
High	2.55	.86			

\*  $p < .05$

Source: Computed by the thesis writer

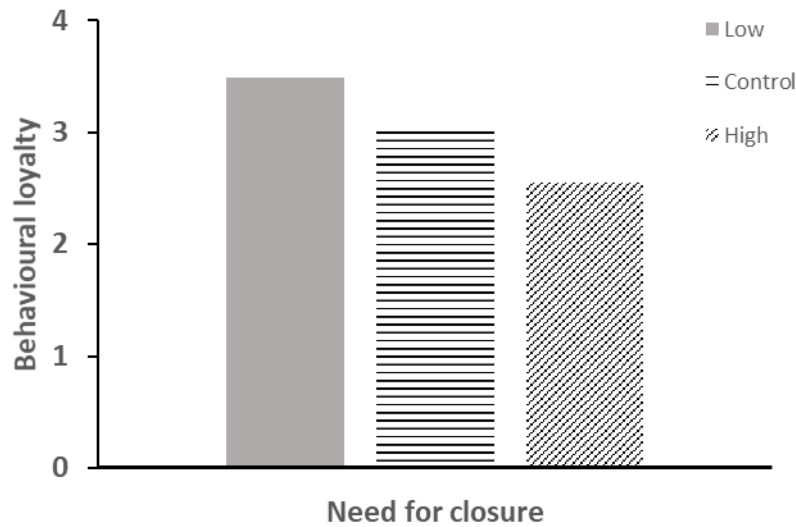


Fig. 8.6: Behavioural loyalty with respect to need for closure  
Source: Illustrated by the thesis writer

Moreover, computed results of Tukey post hoc test are depicted in Table 8.12. Derived from the table, group pertaining to individuals manipulated with low need for closure vis-à-vis group pertaining to individuals manipulated with high need for closure displayed a significant behavioural loyalty mean rise (.94) from latter to former group with CI [.60, 1.28] not containing 0 and  $p < .001$ . Analogously, group high need for closure manipulated group vis-à-vis control group displayed a significant behavioural loyalty mean fall (.49) from latter to former group with CI [-.83, -.15] not containing 0 and  $p = .003$ . Correspondingly, low need for closure manipulated group vis-à-vis control group displayed a significant behavioural loyalty mean rise (.46) from latter to former group with CI [.12, .80] not containing 0 and  $p = .005$ . Predictably, behavioural loyalty varied amongst groups with variances being statistically significant.

Table 8.12 Turkey HSD: need for closure influencing behavioural loyalty

Conditions		<i>M</i>	<i>SD</i>	95% CI	
				LB	UB
Low	High	.94*	.000	.60	1.28
High	Control	-.49*	.003	-.83	-.15
Low	Control	.46*	.005	.12	.80

\*  $p < .05$

Source: Computed by the thesis writer



***Need for closure influencing purchase intention by means of cognitive attribution and perceived price fairness (serial mediation)***

Employing Hayes (2018) “PROCESS Model 6 with 5000 bootstrap samples and 95% bias–corrected CIs” (Newman et al., 2019, p. 89) H15 was tested. Table 8.13 illustrates computed results. Based on the table, IE of high need for closure on purchase intention by means of cognitive attribution and perceived price fairness in serial =  $-.08$  with the bootstrap CI being non-inclusive of 0 along completely below 0 ( $-.20$  to  $-.0023$ ). Hence, abovementioned IE was significantly negative. Likewise, IE of low need for closure on purchase intention by means of cognitive attribution and perceived price fairness in serial =  $.11$  with the bootstrap CI being non-inclusive of 0 along completely above 0 ( $.01$  to  $.26$ ). Hence, abovementioned IE was significantly positive. Therefore, detection of anticipated effects of serial mediation implied acceptance of H15.

Table 8.13 Need for closure influencing purchase intention by means of cognitive attribution and perceived price fairness: serial mediation

Way of influence	Estimation of parameter (SE)	CI
Bootstrapped IE		
High need for closure → Cognitive attribution → Perceived price fairness → Purchase intention	$-.08 (.05)$	CI: $-.20, -.0023$
Low need for closure → Cognitive attribution → Perceived price fairness → Purchase intention	$.11 (.06)$	CI: $.01, .26$

Source: Computed by the thesis writer

***Need for closure influencing behavioural loyalty by means of cognitive attribution and perceived price fairness (serial mediation)***

Employing Hayes (2018) “PROCESS Model 6 with 5000 bootstrap samples and 95% bias–corrected CIs” (Newman et al., 2019, p. 89) H16 was tested. Table 8.14 illustrates computed results. Based on the table, IE of high need for closure on behavioural loyalty by means of cognitive attribution and perceived price fairness in serial =  $-.13$  with the bootstrap CI being non-inclusive of 0 along completely below

0 (-.25 to -.03). Hence, abovementioned IE was significantly negative. Likewise, IE of low need for closure on behavioural loyalty by means of cognitive attribution and perceived price fairness in serial = .18 with the bootstrap CI being non-inclusive of 0 along completely above 0 (.08 to .30). Hence, abovementioned IE was significantly positive. Therefore, detection of anticipated effects of serial mediation implied acceptance of H16.

Table 8.14 Need for closure influencing behavioural loyalty by means of cognitive attribution and perceived price fairness: serial mediation

Way of influence	Estimation of parameter ( <i>SE</i> )	CI
Bootstrapped IE		
High need for closure → Cognitive attribution → Perceived price fairness → Behavioural loyalty	-.13 (.05)	CI: -.25, -.03
Low need for closure → Cognitive attribution → Perceived price fairness → Behavioural loyalty	.18 (.05)	CI: .08, .30

Source: Computed by the thesis writer

### 8.3 Discussion

Need for closure (high vs. low) affect cognitive attribution concerning a price increase occurrence. This finding is consistent with Webster (1994) research, who employing U.S. university students showed that consumers' need for closure shape fundamental attribution error. At cognitive attribution stage, low need for closure manipulated consumers had greater focus on external contextual factors, resulting in higher tendencies of external attribution. Oppositely, high need for closure manipulated consumers had greater ignorance towards external contextual factors and favoured internal object/disposition based factors, resulting in higher tendencies of internal attribution. Low need for closure manipulated consumers attributed causes of the price increase to the factors external to the company more than high need for closure manipulated consumers. As predicted, in face of a price increase occurrence, among low need for closure manipulated consumers more cognitive attribution was observed. On the contrary, among high need for closure manipulated consumers less cognitive attribution was observed. These findings are in line with Stalder (2009) findings that indicated positive association among fundamental

attribution error and need for structure (one of the aspect of need for closure) in U.S university students perspective. Webster (1994) also reported similar positive impact of need for closure on fundamental attribution error. Likewise, Moss (2016) indicated high need for closure individuals incline to attribute behavioural to personal dispositions instead of contextual features.

In addition, the significant effect of need for closure on consumers' price perceptions was found. Particularly, low need for closure individuals' group perceive a price increase as fairer than high need for closure individuals' group. Current outcomes are concordant with Mattila and Choi (2012) research outcomes that exhibited fairness perceptions sway by consumers' need for closure in South Korean and U.S consumers' case. Research of Chatterjee (2007), Mattila and Choi (2012), and Pietrzak et al. (2014) displayed analogous outcomes of lower fairness perceptions among high need for closure consumers than low need for closure consumers. Results also demonstrated the mediation role of cognitive attribution. Pietrzak et al. (2014) research involving Polish university students exhibited analogous results specifying need for closure indirectly drives process fairness perceptions in negative direction. As expected, low need for closure manipulated consumers considering external contextual factors perceive the price increase as more fair. On the other hand, high need for closure manipulated consumers ignoring external contextual factors show opposite perceptions. These outcomes are concordant with prior studies indicating "cognitive attribution positively influenced price fairness" (Chung and Petrick, 2013, p. 175) and "price increases driven by external factors are perceived as fairer than those driven by internal factors" (Vaidyanathan and Aggarwal, 2003, p. 455).

Furthermore, results insinuate need for closure affect cognitive attribution, then shape price fairness perceptions, in that way influence purchase intention. Specifically, it was shown low need for closure - manipulated consumers with larger cognitive attribution perceived the rise of price as more fair in compared to their high need for closure manipulated counterparts. Greater perceptions of price fairness among low need for closure - manipulated consumers lead to larger purchase intention in compared to high need for closure - manipulated consumers. Current findings and Kim and Hwang (2017) research results (indicating need for closure affects purchase intention in instance of South Korean consumers buying fashion products) are congruent. Lee et al. (2009) study also demonstrated similar results where consumers' need for closure influence their buying propensity. The outcomes are concordant with Vermeir et al. (2002) outcomes that demonstrated significant differences among low and high need for closure consumers regarding purchase choice behaviour in consumers' from Belgium context.

Moreover, results suggest need for closure affect cognitive attribution, then shape price fairness perceptions, in that way influence behavioural loyalty. Specifically, it

was shown low need for closure - manipulated consumers with larger cognitive attribution perceived the rise of price as more fair in compared to their high need for closure manipulated counterparts. Greater perceptions of price fairness among low need for closure - manipulated consumers lead to higher behavioural loyalty in compared to high need for closure - manipulated consumers. Current findings and Rempala et al. (2016) research results (indicating need for closure affects loyalty in instance of individuals from USA) are congruent. Considering USA university students, Federico et al. (2016) research exhibited similar outcomes where loyalty being part of moral binding foundations showed connection with need for closure. Utilizing respondents from South Korea, Choi et al. (2008) also indicated association among need for closure and loyalty. Arquero et al. (2017) study also demonstrated similar results where consumers' need for closure influence their loyalty.

## **9. CONCLUSION**

The current research presents consumer attributional tendencies, perceptions, and reactions to price increase occurrence. Study 1 exhibits that thinking styles significantly sway consumers' fairness perception pertaining to price. Particularly, analytic and holistic thinkers vary in their fairness perceptions with holistic thinkers perceiving an increase in price as more fair as opposed to their analytic counterparts. This research also demonstrates the mediating role that cognitive attribution plays in the aforementioned influence. Replication of the aforesaid study outcomes occurred in study 2 in relation to a different kind of service with a more typical sample, indicating fair robustness of study 1 results. Furthermore, study 2 extended the causal links by including purchase intentions and behavioural loyalty, which are key variables from managerial perspective. This study reveals analytic thinkers who have lesser cognitive attribution perceive a rise in price as lesser fair, thereby having lesser behavioural loyalty and purchase intention as opposed to their holistic counterparts. Study 3 displays that consumers' fairness perception pertaining to price differ amidst cultures. Study 3 outcomes specify that the differences in perceived price fairness occur due to cultural variances in thinking styles. Specifically, easterners adopting holistic styles of thinking are prone to count situation-based and/or context-based influences viz. extraneous influences during inferring grounds of a price increase incident, resulting in greater perceived price fairness and cognitive attribution. Westerners adopting analytic thinking styles are prone to disregard situation-based and/or context-based influences i.e. external factors while inferring causes of a price increase incident, resulting in lesser perceived price fairness and cognitive attribution. Study 4 replicated results of study 3 in relation to a different kind of service with a more typical sample, indicating fair robustness of study 3 results. Furthermore, study 4 extended the causal links by

including purchase intentions and behavioural loyalty. Findings of study 4 support the causal chain from culture to purchase intention and behavioural loyalty by means of cognitive attribution following, in turn, perceived price fairness. Study 5 shows that need for closure significantly impacts consumers' fairness perception pertaining to price. Particularly, high and low need for closure individuals vary in their fairness perceptions with low need for closure individuals perceiving a rise in price being more fair as opposed to high need for closure individuals. This research also demonstrates the mediating role that cognitive attribution plays in this influence. Moreover, this study also reveals high need for closure individuals who have lesser cognitive attribution perceive a rise in price as lesser fair, thereby having lesser behavioural loyalty and purchase intention as opposed to their low need for closure counterparts.

## **9.1 Theoretical contributions**

The present research enriches our knowledge of how consumers with diverse thinking styles and need for closure respond toward price increase incident from behavioural loyalty, buying intention, and price fairness perspective. This dissertation contributes towards expanding body of literary works in marketing, psychology, behavioural pricing along consumer behaviour. Findings add to the literature by propounding a cognitive account that augments the existing behavioural pricing, consumer psychology-behaviour, as well as marketing thoughts and theories. To author's knowhow, this thesis exemplifies the first endeavour that identifies important role of thinking styles in determining consumers' price fairness perceptions. To author's awareness, the dissertation also contribute to theory by representing the first attempt to uncover the interconnections among perceived price fairness, behavioural loyalty, buying intention, and cognitive attribution together with cognitive factors (i.e. thinking styles and need for closure). The present research specifically shows the differences among holistic and analytic thinkers in behavioural loyalty, perceived price fairness, and purchase intention. Analogously, differences pertaining to the mentioned variables also exist among low and high need for closure individuals. Additionally, to author's knowhow, current research epitomises the first try that demonstrates the causal chain from cognitive factors to purchase intention and behavioural loyalty sequentially via cognitive attribution and price fairness perceptions. Furthermore, the thesis also contributes to multicultural consumer behaviour literary works through expanding the comprehension related to the cultural thinking styles variations inducing the price fairness perceptions, behavioural loyalty, purchase intention, and cognitive attribution variances.

## 9.2 Practical contributions

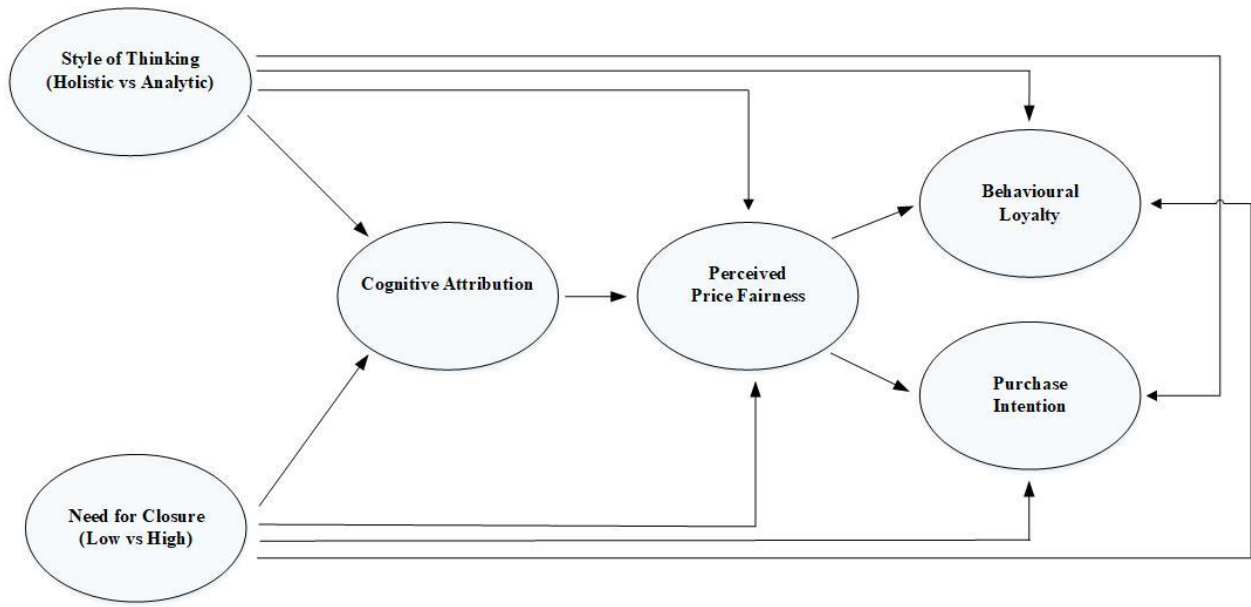
The present dissertation imparts multiple pragmatic insinuations too. To marketers and managerial personnel, the current research provide insights into how consumers' styles of thinking and need for closure induce differences in cognitive attributions, price impartiality then ultimately behavioural loyalty, buying intention among consumers for rise in prices occurrences. Specifically, when rise in prices occurs, holistic thinkers as wells as low need for closure individuals are better receptive in including external context-dependent influences causing the incidents, leading them in having less inclination towards blaming the firms solely. In contrary, analytic thinkers as well as high need for closure individuals lean towards internal factors for aforementioned same incident, making them more probable towards blaming the firms themselves. Consequently, holistic thinkers show higher cognitive attribution, perceived pricing impartiality, behavioural loyalty, and intentions of buying when compared with analytic thinkers in response to a price increase incident. Furthermore, high need for closure individuals show lower cognitive attribution, perceived pricing impartiality, behavioural loyalty, and intentions of buying when compared with low need for closure individuals. These outcomes induce that tactics to shape thinking styles and need for closure can be helpful at handling buying intentions, price fairness as well as behavioural loyalty. Practically speaking, aforementioned differences can be instrumental for businesses tactics formation. As price increases, consumers' price fairness perceptions will inevitably decline and thereby may reduce behavioural loyalty as well as buying intention of consumers with weakening the businesses competing ability. However, the thesis findings imply that a firm can guard itself against decreasing buying intentions, price fairness as well as behavioural loyalty through tactically revealing and underscoring extraneous context-based influences being rise in price grounds. Accentuating influences that are out of the hands of companies also matters importantly. In developing policies for conveying messages regarding higher prices, practitioners must accommodate the styles of thinking impact on behavioural loyalty, fairness perceptions, and buying intentions. Encouraging customers to focus on external context-based influences and/or uncontrollable factors, such as an outside supplier of the company raised prices of its materials or a market-wide shortage of raw materials, can counteract decrease fairness, behavioural loyalty, and purchase intention. By using post signs companies can acquaint consumers with compelling reasons behind increased prices. Strategies that encourage thinking style namely holistic, for example, devising extrinsic context-based influences extra prominent, may boost customers in shifting blame to outside firms. This way can strengthen purchase intention, behavioural loyalty, and fairness perceptions during increased prices circumstances. Limiting the conditions that foster need for closure (for

instance, time pressure, dissatisfaction, anger, and noise) can counter decrease fairness, behavioural loyalty, and purchase intention. Information about price increase should be managed carefully, particularly in case of analytic thinkers and high need for closure individuals.

Moreover, since Westerners tend to be analytic thinkers and Easterners tend to be holistic thinkers, bearing in mind aforesaid multicultural variations in consumers' perceptions of pricing fairness, purchase intention, behavioural loyalty, and attributional propensities associated with their styles of thinking, may appear to be helpful to practitioners. This directs to the fact that price strategies should be properly differentiated specific to different consumers, or else there would be risks involved. Marketers and managers should not communicate the news regarding increased prices unselectively, rather they be factored towards cultural thinking styles variations impacting purchase intention, behavioural loyalty, price fairness perceptions, and attributional propensities. In 21st century world, where dynamic movement of culture exists and cross-cultural societies evolves, purchase intention, behavioural loyalty, price fairness perceptions, and attributional propensities influenced by cultural thinking styles have important roles in forming strategies for businesses, price mechanism design, instigate pricing, customer satisfaction and loyalty. The mentioned strategies will be helpful in maintaining consumers' positive fairness perception pertaining to price, behavioural loyalty, buying intention as well as gaining competitive edge. Thus, the businesses competing ability as well as commercial return will enhance.

### **9.3 Limitation and future scope**

This thesis work is also subject to drawbacks that open avenues towards prospective potentials for further investigation. In place of artificially created price increase scenario, using naturally occurring scenario would augment generalisability of the results. In this research work restaurant, car rental, and budget hotel as the services connected to the price increase event were used, future work using other goods and services would also augment generalisability of the results. Future research work based on an integrated conceptual model (see Fig 1.1), studying the impact of need for closure and thinking styles together would provide valuable insights.



*Fig. 9.1: Integrated conceptual model*  
*Source: Illustrated by the thesis writer*

Future research work studying the effect of styles of thinking and need for closure on other managerially pertinent outcome variables such as complaining behaviour, willingness to pay more and revenge behaviour would also contribute to more comprehensively understanding the consumer reactions to price increase occurrences.



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## APPENDIX A (English)

### Analytic thinking manipulation

Image

<div><div> wrench</div><div> bone</div><div> light bulb</div><div> spoon</div><div> domino</div><div> toothbrush</div><div> pizza</div><div> boot</div><div> glasses</div><div> pencil</div><div> CD</div></div>
<p>Hidden Objects Puzzle (Can you find the eleven hidden objects)</p> <p><input type="checkbox"/>wrench; <input type="checkbox"/>bone; <input type="checkbox"/>light bulb; <input type="checkbox"/>spoon; <input type="checkbox"/>domino; <input type="checkbox"/>toothbrush; <input type="checkbox"/>pizza; <input type="checkbox"/>boot; <input type="checkbox"/>glasses; <input type="checkbox"/>pencil; <input type="checkbox"/>cd</p>

## APPENDIX B (English)

### Holistic thinking manipulation











Image



Please observe the picture give above and focus on its background. Now kindly write down what you see in the picture as a whole (1-2 sentences).

## APPENDIX C (English)

### Cognitive Attribution

Please think about the reason(s) for the price increase over the time. Please mark only one number for each of the following questions (from 4 to 1 increasing towards left and 4 to 7 increasing towards right). Is the cause(s) of price increase something.								
The cause(s) of price increase is something that reflects an aspect of the <i>X</i> /the situation.								
								
That reflects an aspect of the <i>X</i>	1	2	3	4	5	6	7	That reflects an aspect of the situation
The cause(s) of price increase is something inside/outside the <i>X</i> .								
								
Inside the <i>X</i>	1	2	3	4	5	6	7	Outside the <i>X</i>
The cause(s) of price increase is something about the <i>X</i> /other situations.								
								
Something about the <i>X</i>	1	2	3	4	5	6	7	Something about other situations
The cause(s) of price increase is something controllable/uncontrollable by the <i>X</i> .								
								
Controllable by the <i>X</i>	1	2	3	4	5	6	7	Uncontrollable by the <i>X</i>
The cause(s) of price increase is something intended/unintended by the <i>X</i> .								
								
Intended by the <i>X</i>	1	2	3	4	5	6	7	Unintended by the <i>X</i>

*X* = restaurant for study 1 and study 3; *X* = car rental for study 2 and study 5; *X* = budget hotel for study 4.

## APPENDIX D (English)

### Perceived Price Fairness

The below statements concern your opinion about the <i>X</i> price increase (1 - Strongly Disagree; 2 – Disagree; 3 – Neutral; 4 – Agree; 5 - Strongly Agree)					
The price increase is clearly understandable.	1	2	3	4	5
The price increase is acceptable.	1	2	3	4	5

The price increase is fair.	1	2	3	4	5
The pricing decision processes and procedures of the <i>X</i> are fair.	1	2	3	4	5
The pricing decision processes and procedures of the <i>X</i> are reasonable.	1	2	3	4	5
Procesy a postupy rozhodování o cenách ve skupině <i>X</i> jsou přijatelné.	1	2	3	4	5

*X* = restaurant for study 1 and study 3; *X* = car rental for study 2 and study 5; *X* = budget hotel for study 4.

## APPENDIX E (English)

### Thinking Styles

The below statements describe beliefs about the world. 1- strongly disagree; 2 – Disagree; 3 – Somewhat disagree; 4 – Netral; 5 – Somewhat agree; 6 – Agree; 7 – Strongly Agree							
Everything in the universe is somehow related to each other	1	2	3	4	5	6	7
Even a small change in any element of the universe can lead to significant alterations in other elements	1	2	3	4	5	6	7
Any phenomenon has numerous numbers of causes, although some of the causes are not known	1	2	3	4	5	6	7
Nothing is unrelated	1	2	3	4	5	6	7
Everything in the world is intertwined in a causal relationship	1	2	3	4	5	6	7
Any phenomenon entails a numerous number of consequences, although some of them may not be known	1	2	3	4	5	6	7
It is more important to pay attention to the whole than its parts	1	2	3	4	5	6	7
The whole is greater than the sum of its parts	1	2	3	4	5	6	7
It is more important to pay attention to the whole context rather than the details	1	2	3	4	5	6	7

It is not possible to understand the parts without considering the whole picture	1	2	3	4	5	6	7
The whole, rather than its parts, should be considered in order to understand a phenomenon	1	2	3	4	5	6	7
We should consider the situation a person is faced with, as well as his/her personality, in order to understand one's behavior	1	2	3	4	5	6	7

## APPENDIX F (English)

### Purchase Intention

1 - very low; 2 - moderately low; 3 - slightly low; 4 - neutral; 5 - slightly high; 6 - moderately high; 7 - very high							
The likelihood of me purchasing this service of <i>X</i> is...	1	2	3	4	5	6	7
My willingness to buy this service of <i>X</i> is...	1	2	3	4	5	6	7
The probability that I would consider buying this service of <i>X</i> is...	1	2	3	4	5	6	7

*X* = restaurant for study 1 and study 3; *X* = car rental for study 2 and study 5; *X* = budget hotel for study 4.

## APPENDIX G (English)

### Behavioural Loyalty

The following statements concern your behavioral loyalty after you experience the price increase (1 – Very unlikely; 2 – Unlikely; 3 – Neutral; 4 – Likely; 5 – Very likely)					
I will say positive things about the <i>X</i> to other people	1	2	3	4	5
I will recommend the <i>X</i> to someone who seeks my advice	1	2	3	4	5
I will encourage friends and relatives to avail the <i>X</i>	1	2	3	4	5
I will consider the <i>X</i> my first choice to take future <i>X</i> service	1	2	3	4	5



I will avail the <i>X</i> more in the coming months	1	2	3	4	5
---	---	---	---	---	---

*X* = restaurant for study 1 and study 3; *X* = car rental for study 2 and study 5; *X* = budget hotel for study 4.

## APPENDIX H (English)

### Need for closure

Read each of the following statements and decide how much you agree with each according to your beliefs and experiences. Please respond according to the following scale: 1- Completely Disagree; 2- Mostly Disagree; 3-Slightly Disagree; 4- Slightly Agree; 5- Mostly Agree; 6- Completely Agree						
I don't like situations that are uncertain.	1	2	3	4	5	6
I dislike questions which could be answered in many different ways.	1	2	3	4	5	6
I find that a well ordered life with regular hours suits my temperament.	1	2	3	4	5	6
I feel uncomfortable when I don't understand the reason why an event occurred in my life.	1	2	3	4	5	6
I feel irritated when one person disagrees with what everyone else in a group believes.	1	2	3	4	5	6
I don't like to go into a situation without knowing what I can expect from it.	1	2	3	4	5	6
When I have made a decision, I feel relieved.	1	2	3	4	5	6
When I am confronted with a problem, I'm dying to reach a solution very quickly.	1	2	3	4	5	6
I would quickly become impatient and irritated if I would not find a solution to a problem immediately.	1	2	3	4	5	6
I don't like to be with people who are capable of unexpected actions.	1	2	3	4	5	6
I dislike it when a person's statement could mean many different things.	1	2	3	4	5	6
I find that establishing a consistent routine enables me to enjoy life more.	1	2	3	4	5	6

I enjoy having a clear and structured mode of life.	1	2	3	4	5	6
I do not usually consult many different opinions before forming my own view.	1	2	3	4	5	6
I dislike unpredictable situations.	1	2	3	4	5	6











## APPENDIX I (English)

### Demographic Information

Age (years)
<input type="checkbox"/> 20 or below; <input type="checkbox"/> 21 – 30; <input type="checkbox"/> 31 – 40; <input type="checkbox"/> 41 – 50; <input type="checkbox"/> 51 or above
Gender
<input type="checkbox"/> Female; <input type="checkbox"/> Male
Education (choose the higher education pursued)
<input type="checkbox"/> Primary/Elementary School or below
<input type="checkbox"/> Secondary/High school degree or equivalent
<input type="checkbox"/> College/University or equivalent
<input type="checkbox"/> Post-graduate or above
Monthly Income
<input type="checkbox"/> [30000 INR or below]
<input type="checkbox"/> [30001 INR - 60000 INR]
<input type="checkbox"/> [60001 INR - 90000 INR]
<input type="checkbox"/> [90001 INR - 120000 INR]
<input type="checkbox"/> [ 120001 INR - 150000 INR]
<input type="checkbox"/> [ 150001 INR or above]
Employment Status
<input type="checkbox"/> Employed; <input type="checkbox"/> Self-employed; <input type="checkbox"/> Out of work and looking for work; <input type="checkbox"/> A homemaker; <input type="checkbox"/> A student; <input type="checkbox"/> Retired
Nationality
<input type="checkbox"/> Indian; <input type="checkbox"/> Czech Republic

## APPENDIX C (Czech)

### Kognitivní atribuce

Zamyslete se prosím nad příčinou (příčinami) zvýšení ceny v průběhu času. U každé z následujících otázek označte pouze jedno číslo (od 4 do 1 rostoucí směrem doleva a od 4 do 7 rostoucí směrem doprava). Příčinou (příčinami) růstu cen je								
Příčina(y) zvýšení cen je něco, co odráží aspekt <i>X</i> /situace.								
								
To, co odráží aspekt <i>X</i>	1	2	3	4	5	6	7	To, co odráží jeden z aspektů situace
Příčinou zvýšení cen je něco uvnitř/vně <i>X</i> .								
								
Uvnitř <i>X</i>	1	2	3	4	5	6	7	Vně <i>X</i>
Příčinou zvýšení cen je něco, co se týká <i>X</i> /jiných situací.								
								
Něco o <i>X</i>	1	2	3	4	5	6	7	Něco o jiných situacích
Příčinou zvýšení cen je něco, co restaurace může/nemůže kontrolovat.								
								
Kontrolovatelné na straně <i>X</i>	1	2	3	4	5	6	7	Nekontrolovatelné ze strany <i>X</i>
Příčinou zvýšení cen je něco, co bylo/nebylo záměrem restaurace								
								
Záměr <i>X</i>	1	2	3	4	5	6	7	Nezamýšlené ze strany <i>X</i>

*X* = restaurace pro studii 3; *X* = levný hotel pro studii 4.

## APPENDIX D (Czech)

### Vnímání spravedlivé ceny

Níže uvedená tvrzení se týkají vašeho názoru na zvýšení ceny pro <i>X</i> (1 - rozhodně nesouhlasím; 2 - nesouhlasím; 3 - neutrální; 4 - souhlasím; 5 - rozhodně souhlasím).					
Zvýšení ceny je jednoznačně pochopitelné.	1	2	3	4	5
Zvýšení ceny je přijatelné.	1	2	3	4	5
Zvýšení ceny je spravedlivé.	1	2	3	4	5
Procesy a postupy rozhodování o cenách ve skupině <i>X</i> jsou spravedlivé.	1	2	3	4	5



Procesy a postupy rozhodování o cenách ve skupině <i>X</i> jsou rozumné	1	2	3	4	5
Procesy a postupy rozhodování o cenách ve skupině <i>X</i> jsou přijatelné.	1	2	3	4	5

*X* = restaurace pro studii 3; *X* = levný hotel pro studii 4.

## APPENDIX E (Czech)

### Styly myšlení

Následující výroky popisují přesvědčení o světě. 1- rozhodně nesouhlasím; 2 - nesouhlasím; 3 - spíše nesouhlasím; 4 - netrvám na tom; 5 - spíše souhlasím; 6 - souhlasím; 7 - rozhodně souhlasím.							
Všechno ve vesmíru spolu nějak souvisí.	1	2	3	4	5	6	7
I malá změna v jakémkoli prvku vesmíru může vést k výrazným změnám v jiných prvcích.	1	2	3	4	5	6	7
Každý jev má řadu příčin, i když některé z nich nejsou známy.	1	2	3	4	5	6	7
Nic vzájemně nesouvisí	1	2	3	4	5	6	7
Vše na světě je propojeno v příčinném vztahu.	1	2	3	4	5	6	7
Každý jev s sebou nese řadu důsledků, i když některé z nich nemusí být známy.	1	2	3	4	5	6	7
Je důležitější věnovat pozornost celku než jeho částem.	1	2	3	4	5	6	7
Celek je větší než součet jeho částí	1	2	3	4	5	6	7
Je důležitější věnovat pozornost celému kontextu než detailům.	1	2	3	4	5	6	7
Není možné porozumět jednotlivým částem, aniž bychom vzali v úvahu celý obraz.	1	2	3	4	5	6	7
Pro pochopení jevu je třeba brát v úvahu spíše celek než jeho části.	1	2	3	4	5	6	7
Abychom pochopili chování člověka, měli bychom vzít v úvahu situaci, ve které se nachází, a také jeho osobnost.	1	2	3	4	5	6	7

## APPENDIX F (Czech)

### Záměr nákupu

1 - velmi nízká; 2 - středně nízká; 3 - mírně nízká; 4 - neutrální; 5 - mírně vysoká; 6 - středně vysoká; 7 - velmi vysoká.							
Pravděpodobnost, že si tuto službu od <i>X</i> koupím, je...	1	2	3	4	5	6	7
Moje ochota koupit si tuto službu od <i>X</i> je...	1	2	3	4	5	6	7
Pravděpodobnost, že budu uvažovat o koupi této služby od <i>X</i> , je...	1	2	3	4	5	6	7

*X* = restaurace pro studii 3; *X* = levný hotel pro studii 4.

## APPENDIX G (Czech)

### Behaviorální loajalita

Následující výroky se týkají vašeho loajálního chování po zvýšení ceny (1 - velmi nepravděpodobné; 2 - nepravděpodobné; 3 - neutrální; 4 - pravděpodobné; 5 - velmi pravděpodobné).					
Řeknu o <i>X</i> pozitivní věci dalším lidem.	1	2	3	4	5
Doporučím <i>X</i> někomu, kdo mě požádá o radu.	1	2	3	4	5
Budu podporovat přátele a příbuzné, aby využili <i>X</i>	1	2	3	4	5
Budu považovat <i>X</i> za svou první volbu pro budoucí službu od <i>X</i>	1	2	3	4	5
V příštích měsících budu využívat <i>X</i> více	1	2	3	4	5

*X* = restaurace pro studii 3; *X* = levný hotel pro studii 4.

## APPENDIX I (Czech)

### Demografické údaje

Věk (v letech)
<input type="checkbox"/> 20 nebo nižší; <input type="checkbox"/> 21 – 30; <input type="checkbox"/> 31 – 40; <input type="checkbox"/> 41 – 50; <input type="checkbox"/> 51 nebo vyšší

Pohlaví
<input type="checkbox"/> Ženy; <input type="checkbox"/> Muži
Vzdělání (vyberte dosažené vysokoškolské vzdělání)
<input type="checkbox"/> Základní škola/základní škola nebo nižší
<input type="checkbox"/> Středoškolské a vyšší vzdělání nebo jeho ekvivalent
<input type="checkbox"/> Vysoká škola/univerzita nebo rovnocenný ekvivalent
<input type="checkbox"/> Postgraduální nebo vyšší vzdělání
Měsíční příjem
<input type="checkbox"/> [10000 CZK nebo méně]
<input type="checkbox"/> [10001 CZK - 20000 CZK ]
<input type="checkbox"/> [20001 CZK - 30000 CZK]
<input type="checkbox"/> [30001 CZK - 40000 CZK]
<input type="checkbox"/> [40001 CZK - 50000 CZK]
<input type="checkbox"/> [50001 CZK nebo více]
Stav zaměstnání
<input type="checkbox"/> Zaměstnanci; <input type="checkbox"/> Samostatně výdělečně činné osoby; <input type="checkbox"/> Bez práce a hledání práce; <input type="checkbox"/> V domácnosti; <input type="checkbox"/> Student; <input type="checkbox"/> Důchodce
Státní příslušnost
<input type="checkbox"/> Indický; <input type="checkbox"/> Česká republika

## LIST OF PUBLICATIONS BY AUTHOR

1. Shaw, S., Chovancová, M., & Bejtkovský, J. (2022). Managing price changes: Role of consumer thinking styles on perceived price fairness and purchase intention. *Innovative Marketing*. [https://doi.org/10.21511/im.18\(2\).2022.18](https://doi.org/10.21511/im.18(2).2022.18)
2. Sayanti SHAW, Miloslava CHOVANCOVÁ, J.B., 2017. CONSUMER BEHAVIOUR AND WARRANTY CLAIM: A STUDY ON CZECH CONSUMERS. *Journal of Scientific Papers ECONOMICS & SOCIOLOGY*, 10(3), pp.90–101. DOI: 10.14254/2071- 789X.2017/10-3/7
3. Shaw, S., 2020. The influence of thinking styles on perceived price fairness: An experimental study. In *Marketing and Smart Technologies*, pp. 219-228. Springer, Singapore. DOI: 10.1007/978-981-15-1564-4\_21
4. Sayanti SHAW, M.C., 2019. The Influence of Cross-Cultural Thinking Styles on Perceived Price Fairness: An Experimental Approach. In *Scientific Conference of Business Economics Management and Marketing 2019*, pp. 183–190. [https://link.springer.com/chapter/10.1007/978-981-15-1564-4\\_21](https://link.springer.com/chapter/10.1007/978-981-15-1564-4_21)
5. SHAW, S., 2018. Cultural Differences in Perceived Price Fairness: Role of Styles of Thinking. In *Proceedings of the International Scientific Conference of Business Economics, Management and Marketing 2018*. Brno, Czech Republic: Masaryk University, pp. 202–209.
6. SHAW, S., 2018. Role of Need for Closure on Perceived Price Fairness. In *Management Perspectives in the Digital Era*. BUCHAREST, ROMANIA: 12th International Management Conference Management Perspectives in the Digital Era, pp. 797–806. [http://conferinta.management.ase.ro/archives/2018/pdf/5\\_2.pdf](http://conferinta.management.ase.ro/archives/2018/pdf/5_2.pdf)
7. SHAW, S., 2018. Role of Styles of Thinking on Perceived Price Fairness. In *MANAGEMENT 2018 MANAGEMENT AND THE WORLD IN MOTION, CHALLENGES, OPPORTUNITIES AND THREATS*. Spa Nový Smokovec – Congress Center, High Tatras, Slovak Republic: Prešov, Slovak Republic, pp. 450–455.
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- and Economics, Zlín, Czech Republic, pp. 821–292.  
<https://doi.org/10.7441/dokbat.2017.30>
10. Sayanti SHAW, Miloslava CHOVANCOVÁ, J.P., 2016. Global environment its threats and possible solutions with opportunities: Indian and Czech business entities. In “*Future scientists for sustainable development*” 3rd VUA YOUTH Scientific Session. Szent István University – Faculty of Economics and Social Sciences, Gödöllő, Hungary, pp. 467–481.

# AUTHOR'S PROFESSIONAL CURRICULUM VITAE

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---

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**Occupation:** System Engineer - Senior Data Operations Specialist  
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**Email:** shaw@utb.cz, sayantishaw@gmail.com  
**Expertise:** Data management, Data Analyst, Logistics

## Research Interests

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Marketing & Management, Consumer Behaviour, Styles of Thinking, Big Data Management

## Education

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2016 - present      Doctoral Study - Economics and Management  
Ph.D Student, Tomas Bata University in Zlin, Czech Republic

2009 - 2011        M.Sc. Economics (Hons.)  
Student, Calcutta University, India

2006 - 2009        B.Sc. Economics (Hons.)  
Student, Calcutta University, India

## Work Experience

---

Oct 2021  
- present            Valeo, Senior Data Operations Specialist, Czech Republic  
Data logistics, Data post processing, Planning of the activities,  
Internal and external stakeholder communication, Supervise and  
Delegate task, and Training & Documentation.

July 2019  
- Sep2021           Valeo, Senior Data Logistic Specialist, Czech Republic  
Preparation of data logistic processes within new projects.  
Execution of data logistic processes. Communication across

teams. Analysis of data and processes and their active improvement for higher efficiency within project and logistic. Change management. Analysis of data logistic processes, proposals of long term conceptual solutions that will lead to higher efficiency in department. Reporting about results and statuses of data on a regular basis according to defined reporting frequency. Participating in capacity calculation, planning and plan vs. fulfillment reviews. Propose countermeasures within his/her scope of responsibility.

Oct 2018 –  
June 2019

MEDTRONIC, HCP Spend US Analyst, Czech Republic  
Provide timely and accurate analysis and reporting, Be responsible for Global Data Management, Assist with the development of new reports, Work on continuous improvement and automation of the process, Actively communicate with multiple departments to make sure the data is correct and accurate, Coordinate necessary system and process changes per legislative requirements

Aug 2018 –  
Sept 2018

T B M Evolution Group, Business Development Executive, Czech Republic  
Managing Lead Generation Process, Management of Global Data, Analysis and reporting, Communication between different teams, E-Presentations and Google Presentations to customers

Aug 2013 -  
July 2016

Jadavpur University, Researcher, India  
Developing models based on exchange rate overshooting “Dornbusch and Frankel” and empirically analyse the models, Strong interpersonal skills including ability to work collaboratively with team members as well as independently on projects and ease at building reports, Fluent in statistical analysis software e.g., Advanced Excel, SAS and SPSS, Strong writing skills for different audiences such as teachers, school administrators, policy makers, and academic researchers

Jun 2013 –  
Aug 2016

IESWM, Junior Research Fellow India  
Conduct live surveys, data analysis and management using MS EXCEL (Match, Index, Lookup Function), Extensive use of MS

EXCEL (Pivot Tables and Dashboards, Inserting Formulas and Logical Function - IF) to analyse and evaluate data, Report institutional analysed data using statistical software (MS EXCEL, SPSS), Apply mathematical modeling (statistical and mathematical functions) and other optimizing methods (constrained optimization) to develop and interpret information to assist senior staff with decision-making, Analyse the stakeholders and the target groups, action planning & budget planning, regulatory reporting, and managing multiple projects (including EU-UK project), Pre and post communications and services with collaborators, clients and partners, Reports and presentation with MS Word, Power Point, articles, writing project proposals and editing books & publications

<b>Skills</b>	<b>Language</b>
1. Microsoft Word, Excel, PPT, Power BI	1. English - Fluent
2. Google Sheet	2. Czech - Basic
3. SPSS	3. Hindi - Fluent
4. SAS	4. Bengali - Fluent
5. Advanced Data Analytics with Python	

### **Research project activities at FaME, TBU in Zlin**

- Research Team Member
  - Internal Grant Agency: IGA/FAME/2018/015. Consumer behaviour changes and entrepreneurship for market development through digitization.
  - Internal Grant Agency: IGA/FaME/2016/006. Competitiveness Influenced by Consumer Behaviour on Traditional and Online markets.
  - Internal Grant Agency: IGA/FaME/2020/002. The impact of digital transformation on customer behaviour and firm's sustainable performance

### **Honours and awards**

- Keynote Speaker: “International Scientific Conference of Business Economics Management and Marketing – ISCOBEMM 2019”



- Best Paper Award:
  1. “International Scientific Conference of Business Economics Management and Marketing – ISCOBEMM 2018”
  2. “DOKBAT 2017 - International Bata Conference”

Sayanti Shaw, M.Sc., B.Sc.

**Influence of Cognitive Factors on Consumers' Price Fairness  
Perceptions, Behavioural Loyalty, and Purchase Intention**

Vliv kognitivních faktorů na spotřebitelské vnímání spravedlivě stanovené ceny,  
loajální chování a nákupní záměr

Doctoral Thesis

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