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Gaurav Mittal

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Contextual Bundling and E-Commerce: Strategizing for Online Bundle Formulation

Gaurav Mittal
Nokia Corporation

Abstract: Bundling has emerged as a key issue in current marketing and online business thinking. By extending contemporary conceptualizations, this paper proposes a new approach to bundling for both marketing of products and services in E-commerce. It reviews the literature on both bundling and consumer product evaluations and puts forward a new approach. It demonstrates that contextual bundling can constitute the strategic core of a company utilizing E-commerce for its business; at least if the firm's primary goal is to maximize the opportunities of attracting valuable customers, online content purchase and its consumption. This research carries forward some results from previous studies, while it finds other prior results to be questionable. Shows that strategic implications of online bundle formulation is only partially explained in terms of a price or product focus, which is where most of the previous research has concentrated on. A context specific price or product bundling focus can have more strategic implications than a simple price or product focus on consumer purchase evaluations. Businesses must define bundling through an in-depth appraisal of the actual contextual experience of the customers, rather than focusing solely on reservation prices, which is where previous literature has put maximum emphasis.

Keywords: Collaborative commerce, Consumer perceptions, Bundling (marketing), Strategy.

I. Introduction

The notion of electronic commerce (E-commerce) has been gaining in popularity with the rise of commercial activities on digital networks, especially on the Internet. In the academic world as well as in commercial organizations, many analyses see the Internet as a way to re-engineer the relationship between the producer (manufacturers and service providers) and the final consumer, leading to major productivity progress in transactional activities. Bundling product with services and dedicating assets and learning capabilities to their production allow transaction costs to be reduced along with more customer satisfaction. Internet is often analyzed as a medium that will enable the establishment of a direct electronic relationship between producers and manufacturers.

Millions of technology products are/can be distributed via the Internet. The technology continues to advance with breathtaking speed, yet existing theory and practice fail to

provide clear guidance on how these technology products should be packaged, priced, and sold. At one end of the spectrum are technologies such as on-line market clearing [4] where transactions are made in a continuous setting, transaction possibilities may pass and information about future possibilities may be incomplete or unknown [4]. In on-line market clearing, buy bids and sell bids are matched to maximize some value, such as seller profit or market liquidity. This paper draws attention to the opposite end, on-line bundle formulation. Here the task is to match a buyer's needs with items offered by suppliers so that a single complete bundle is purchased. Excess supply and market liquidity are not concerns here. The sole focus is on the satisfaction of the buyer.

The approach proposed in this paper makes use of *expected utility theory* to facilitate the decision process [16, 31]. Basing purchasing decisions on expected utility maximization (as opposed, say, to expected cost minimization) seems appropriate because it is sensitive to the decision-maker's attitude toward risk and preferences for such attributes as item quality, compatibility with other items, and supplier reliability.

With the high volume of purchasing options available on Internet today, strategic tools that can cleverly ascertain the true value of several different options are becoming important. More businesses are turning to web-based pricing tools that sift through large volumes of data on product revenues, inventory levels to determine how much to charge for items during certain periods [15]. Still others are resorting to dynamic pricing, whereby prices can change in time as well as across consumer markets and across packages of goods or services [13]. Dynamic pricing is utilized not only to maximize profit by responding to changes in supply and demand, but also to discourage the use of price-comparing shoppers by rendering them unreliable. These pricing strategies translate into higher profits for business, mostly at the expense of the consumer.

The focus of bundling literature till now has been on price discount. The literature on consumers' perceptions of price discounts is grounded in prospect theory [12] and mental accounting [30]. This literature suggests that in risky situations, consumers are more sensitive to possible losses than to possible gains, and that they are likely to accept more risk when potential losses are aggregated. Losses are aggregated when several losses are summed and presented as a single unit. For example, if an investor sees losses in a portfolio only once after three months (e.g., in a quarterly financial statement), he/she will be more willing to take risks than if he/she saw the same losses with greater frequency (e.g., by reviewing the portfolio daily or weekly). The

principle of aggregated losses suggests that bundling several otherwise risky products together might reduce perceived risk, as the bundle would offer several distinct benefits (gains) for one price (loss).

Bakos and Brynjolfsson [3] conclude that the economics of aggregation are in many ways similar in effect to economies of scale or network externalities. A marketing strategy that employs large-scale bundling can extract greater profit and gain competitive advantage from a given set of goods. Economies of aggregation will be important when marginal costs are very low, as the case for the (re)production and delivery of information goods via the Internet.

Recent research has found that consumers who buy a bundle of products at a bundled price consume less of the bundle than do consumers who are presented with separate product prices [22,27]. Consumers who buy a bundle of products at a bundled price perceive far greater ambiguity on the cost of their purchase than do consumers presented with separate product prices. This greater ambiguity "decouples" the cost of the purchase from the extra benefit of consuming the entire bundle. In other words, consumers who are presented with a bundled price will account less for the costs of their purchase than will consumers who are presented with separate prices [29].

This approach questions, among other things, the role of price and product bundling as the primary and only means of an online bundle formulation. The importance of product bundling is not questioned as such, but bundle formulation is rather seen as a measure of overall value offering to the consumer. More room and insight is required to listen to the consumer voice and taking his views, needs and opinion into account in strategic decision-making.

This paper addresses the online-bundle formulation (OBF) problem. The task of OBF is to decide which of many satisfactory combinations (bundles) of items should be formulated to maximize the buyer's overall satisfaction. Satisfaction, formalized as multi-attribute utility, includes product experience, consumer valuation, reputation, price, information and risk. This paper extends the contemporary conceptualizations about online bundling and proposes a new approach to bundling for both marketing of services and products in E-commerce.

II. Contextual Bundling

Contextual bundling is all about bundling to optimize the end user experience in a specific context, says Mittal [19]. An illustration of this phenomenon to offer "complete" product bundles is wireless operators initiative to integrate handsets, networks, content and services to produce an end-to-end, easy to use mobile Internet experience. The customer experience is transformed by ease of use, tailored packaged services for communication, organization, entertainment and information needs of the consumers on the move, improved quality of sound and content, encouraging increasing adoption and usage of online services. This is supported by a

new, easy to understand pricing model, designed to ensure customers receive simpler bills and to encourage usage through increased cost transparency.

Bakos and Brynjolfsson [2], find that when different market segments of consumers differ systematically in their valuations for goods, simple bundling will no longer be optimal. However, by offering a menu of different bundles aimed at each market segment, bundling makes traditional price discrimination strategies more powerful by reducing the role of unpredictable idiosyncratic components of valuations. Their findings appear to be consistent with the markets for Internet and online content, and copyrighted music.

A mobile Internet service provider or vendor, for example, is able to offer (alone or by matchmaking or through partnership) a variety of different offerings to a consumer. The service provider, in an effort to favorably affect the online content purchase and consumption may combine and optimize a-set of offerings to make the whole package work in a plug-and-play fashion. This takes the effort away from consumer; the package works optimally for the intended service(s) and enhances the consumer perception and hence increased content consumption. For example, an online-package with integrated Music player device, listening to Music service, installed settings to access the content and ready songs (content) on the move. This can be defined as *contextual bundling i.e. bundling of offering in a particular context*. In the above example, the context is "music on-the-go". The service provider or vendor in this case does not offer (n multiply n) offerings to the consumer. Other similar examples can be "TV on the go", "Click as you go", etc. The offering is focused in a particular context and experience for the consumer. In its most simple and basic form, contextual bundling can be considered as product bundling.

In the never-ending quest to gain and sustain a lead over competition, online businesses in a wide range of industries are turning to integrated solutions. They see integrated solutions as an *integrated chain* that is listening and responding to customer needs. According to Poirier [23], businesses see this chain as a mechanism for transforming their companies into enterprises that are more efficient and more responsive to customer demand.

Integrated solutions can result from both internal focus and external collaboration when the internal strengths do not match the other more skilled party. Poirier [23] has made a study of more than 300 global firms engaged in similar practices. This study revealed four levels of progression. The first two levels, where the vast majority of companies are situated, are internally focused. The two higher levels, embrace an external focus. Poirier also found that businesses continue to concentrate their efforts on internal excellence, ignoring the advantages external alliances bring. Higher level, by contrast, leverage shared resources to satisfy customers, resulting in increased consumer purchase and consumption. Needless to say, content consumption is the key for an online business.

Many organizations are building 'value-chain constellations'. These are organized networks of businesses that are working together, utilizing Internet, sharing resources and rewards in pursuit of targeted markets and consumers. Working as integrated units and focusing intensely on the targeted opportunities, these constellations are outperforming the less integrated units. Only a few companies in the lower level have managed to improve customer satisfaction.

The shift in power from sellers to buyers in digital economy has given the phenomena of co-engineering where customers cease to be product and price takers and instead become co-creators of product and price. Kotler et al. [17] refer to the roles that customisation, customerization and collaboration play in preparing market offers. Customisation occurs when companies offer solutions in response to unique demand, as when a doctor cures a sick patient. In this case the company takes the lead in designing the offers. Customerization describes the situations in which the customer, rather than the company, takes the lead in designing an offer. For example: Dell computer's online configuration tools allow customers to design their own computers. Collaboration occurs when a company and its customers actively dialogue and work together in co-customizing the offering. Many companies use extranets to dialogue with important suppliers and customers. Hence, the growing power of consumer makes dual-track communication with the consumer a major precondition of strategic success, and even more so when the aim is to win new customers.

Contextual bundles can also be understood in the context of widely accepted and proven concept of supply chain logistics. The two, partly share the goal to meet the demand for enhanced services by supplying more to the same customer and thus annulling the customers need to shop down the lane. Sussams [28] describes logistics as the science that integrates all the activities. It does not look at the individual parts of a system in isolation but looks at the ways in which the parts are connected and suggests better connection.

Complementarities can obviously create additional incentives for bundling, and thus can lead to the bundling of goods for reasons that have nothing to do with the reshaping of demand [7]. In addition to the goods being complements or substitutes, there may also be costs and benefits associated with producing, distributing, or consuming the bundle as a whole, such as economies of scale in creating a distribution channel, administering prices, and making consumers aware of each product's existence. Such economies underlie most large "bundles" of physical goods. For example, technological complementarities affect the collective valuation of the millions of parts flying in close formation that constitute a Boeing 777. Similarly, it is cheaper to physically distribute newspaper or journal articles in "bundles" rather than individually [2].

One of the effects of the emerging information infrastructure is to dramatically decrease distribution costs

for goods that can be delivered over networks. As noted by [5, 18] and others, this may be enough to make it profitable to "unbundle" certain goods, such as magazine and journal articles, packaged software and songs, to the extent they were formerly bundled simply to reduce distribution costs. The opposing effects on bundling of lower distribution costs because of networking and lower marginal costs due to digitization were first noted by Hanson and Martin [11] and are applied to the analysis of bundling, site licensing, and subscriptions by Bakos and Brynjolfsson [3].

Even with zero additional costs, the benefits of context specific bundling may be eliminated if the bundle includes goods that have negative value to some consumers (e.g., pornography or advertisements). Same goes with asymmetric bundling, while technology is rapidly reducing the costs of reproduction and transmission, the time and energy a user must spend to identify the "desired product" can present a barrier to the limiting result of contextual bundling. For example, the research found that the many users found Phonebook "Backup" service with mobile phone purchase as very valuable but the same users felt annoyed when their new mobile just had a "Sync" icon with no service behind it (eating the menu space in their mobile with it being of no practical use to them).

Thus, on-line companies can achieve a higher market penetration and deepen the value for its customer by creating market offers to match the customer's contextual experience. This can be achieved by offering context specific bundles to the customers.

III. Empirical Evidence

The research approach of this study is best described as action analytical, with clear orientation towards understanding the effect of bundling on consumer purchase intentions. The "action" in this study is represented by intentions and experiences related to on-line bundling, which provide a new point of analysis and understanding consumer purchase intentions.

The action analytical analysis in this study is a methodological combination of interpretative study of concepts, theme analysis [8] and Alasutari's [1] factist perspective. Research method is defined as consisting of those practices and operations, through which the researcher produces *observations* and those rules according to which those observations can be further *interpreted* as possible leads in solving the problem [1]. The phases, producing observations and interpretation, are partly integrated, describing the process through which the mystery is solved [1].

As a part of research, the author conducted a survey of the consumers utilizing digital technology products like a mobile phone, digital camera, Internet services etc as a part of their day-to-day life. The aim of the survey was to study the consumer evaluations for different forms of bundling, giving practical real-life examples.

The target group was selected at random and no specific

prior condition is laid down to pre-select the survey respondents. At the same time, to ensure wider geographical coverage respondents from North America, Europe and Asia, who could understand and communicate in English, were approached to fill the survey. The survey was conducted both in electronic and paper form. The preference at all times was to have the survey conducted in electronic form and participants were encouraged to send the reply of survey in electronic form.

The main topics of the survey are identified based on the preliminary theoretical framework, but the language and variable scales were justified with a pilot round done with few respondents. Once satisfied that the respondents are able to understand the questions and complete within 10-12 minutes, the survey was sent with a possible deadline of 3 weeks. Within the deadline of 3 weeks, 104 filled-in forms were received.

The survey responses were partly analyzed with the SPSS® 13.0 program and in an exploratory manner. According to Olkkonen [21], this kind of approach is often used for new problem areas, in order to find out what the problem is actually all about. Typically, the empirical material in this approach is collected and analyzed according to the researcher's personal understanding of the problem area. The explorative method usually, and also in this study, serves well as a basis for future research in the area.

III. 1 Summary of Empirical Results

The respondents had the most favorable attitude towards the "Availability of Right mix of features". It is a significant finding that more than half (62%) of the respondents feel that availability of right mix of features as the most important characteristic that affects their purchase decision involving a bundled product. Here, the availability of right-mix of features can be understood in terms of what consumer feels is the right mix, meaning providing the experience to the consumers in their own specific context. The consumers value the product most in their own specific context and the consumer valuation comprises of experience from the product, positioning of product, reassurance to the viability of concept, relative advantage of the product as perceived by the consumers. Figure 1 shows the consumer responses during the survey.

The next important characteristic that affects consumers purchase decision involving a product bundle is availability of price discount. Thirty-five (35%) of the survey respondents feel that availability of price discount as the second most important characteristic that affects their purchase decision involving a bundled product. This can be understood in terms of price promotions, product consumption and number of (loss) transaction involved in the purchase. The literature shows that consumer perceive each transaction as a loss transaction [12, 30]. Price discount, higher consumption and reduced transaction costs are typical elements in price bundling.

The third important characteristic that affects consumers purchase decision involving a product bundle is availability

of wider features. Survey results point that thirty-five (35%) of the respondents feel that availability of wider features as the third most important characteristic that affects their purchase decision involving a bundled product. This can be understood in the light of product bundling. Typical elements that define a product bundle are risk mitigation, innovation, brand and a higher user base when involving new, technology, such as Internet, product bundles.

The least important of the four characteristics that affects consumers purchase decision involving a product bundle is availability of custom build product. It is a significant that about half (44%) of the respondents feel that availability of custom build product as the least of four important characteristics that affects their purchase decision involving a bundled product. This can be understood in the light of information needs of the consumer, information search efficiency, complexity of the decision-making environment. Such bundles are effective when the product is fast becoming a commodity and the capability of differentiation is minimal.

IV. Discussion and Conclusions

Adoption of new products can be influenced by economic constraints. Consumers may delay adopting a new product because they feel its price is too high [24] or they expect its price to fall [10, 20]. Under such conditions, consumers prefer to wait and see results from others who can afford to take economic risk [26]. Previous research suggests a relationship between price and perceived risk in two directions. Roselius [25] suggests that consumers may buy a more expensive product because they perceive less risk based on price-quality association. Alternatively, others argue that price acts as a constraint to purchase and represents a financial risk [14].

Marketers typically rely on price promotions to induce trial among nonusers for new products, to increase purchase volume, and/or to retain current consumers who might otherwise switch brands. Despite the broader implications of bundling, previous research has examined bundling primarily as a promotional vehicle that marketers use to sell two or more products together at a discounted price. The mention of consumer experience is totally absent in bundling strategies. It is clear from the consumer experience and valuation will drive the consumer to higher satisfaction and hence also higher purchase and consumption. We need to extend the meaning of *bundling* and decrease the ambiguity about the concept by understanding the core concepts of consumer valuation and purchase process.

Dhebar [6] suggests that technology markets are characterized by high levels of uncertainty related to product standards, product compatibility, availability of complementary products, and vendor credibility/reliability. Such uncertainties stimulate anxiety felt by consumers, which can manifest itself in hesitation to purchase, deferment of purchases, and in extreme cases, exiting the market altogether.

While increasing the rate of market acceptance is important to all products, it seems to be particularly important to increasing-returns-based high-tech products, where the need to jump-start the user base early in the product life cycle is critical. This argument suggests the value of acquiring and retaining early adopters (as opposed to later adopters) on the overall profitability of a new high-tech product [9].

Hence, from the consumer's perspective, newer, technology rich products present greater adoption due to high uncertainty related to product reliability, product compatibility, availability of complementary products and vendor credibility. In addition, consumers are concerned about rapid obsolescence and depreciation of technology products. Such high degree of uncertainties often causes apprehension, which can result in consumer hesitation to purchase, prolong decision-making complexity, deferment of purchases, and in extreme cases, canceling the purchase altogether.

A holistic concept of purchase intention is related to "determination or act to purchase", which also deal with the potential to experience, consume and satisfy. The consumer purchase research looks at things *from the payment perspective* of the consumer. In a complex, socially constructed consumer thinking, it is logical to assume that a bundling of a superior experience inevitably results in higher consumption and better satisfaction. With this logic, this study *challenges the unintentional assumption that price discount is a value as such*, inevitable and equal to better consumer experience. In order to question bundling as a means for higher market penetration, we need a feasible framework for analyzing the consumer purchase intentions. Figure 2 provides us with a combined framework bundling and consumer purchase intentions. What the figure above illustrates is the indispensable knowledge that consumer purchase intentions are defined by the total product experience.

The framework is a synthesis of the extant understanding in selected fields of consumer research that have addressed the issues of consumer psychology. To the framework's credit, its dimensions (consumer valuation, price discount, innovation and risk, and consumer information need elements) are *intuitively descriptive, conceptually independent, and do not lead to circular reasoning*. Each of the four dimensions is *grounded in well-established research*, rather than superficial management research applications. The framework leaves the prioritization for those applying the framework in their specific context.

The study proposes a new approach to bundling in the relation to contextual marketing. It also shows that strategic implications of bundling are only partially explained by price or product focus, whereas previous research has focused mainly on this aspect. A specific price bundle can have more strategic implications than a different specific product bundle, due to associative power of bundling and its interactive capacity. The study demonstrates that the distinction between transactional and contextual is key to

understanding the strategic relevance of bundling and the consequences to companies. Whereas transaction bundling is a promotional tool, contextual bundling is more strategic in that it greatly facilitates the consumer experience.

Consumers often do not use products to their true potential. Major cause for the same is the lack of understanding of the product and how the product can be used in certain situations to make their life smarter and easier. One of the purposes of bundling is to make consumer understand the product and its benefits more clearly. Today's consumer is often very busy and confused between the products and thus clear positioning and fit of product in consumers mind is often necessary. As a result businesses can effectively connect consumers with services, giving them possibility of recurring revenues. Bundling in a specific context, contextual bundling does exactly that; it educates the consumer about the various faces of the product related to different situation giving them a holistic experience and hence improved positioning of product in consumer's mind driving higher consumption and repeat online purchase.

V. Limitations and Future Research

This study has limitations that could be overcome in future extensions of this research. Future research could further test the findings of this study with respect to age and geographical location. For example: context specific experience can change to a great extent in different age groups.

It was noted during the course of this study that younger age group (20-25 yrs) were more price sensitive than older age groups (30+ years). Such an age-based analysis of consumer purchase intentions was considered outside the purview of this study; however, further research can be helpful to create more targeted bundles for specific age groups.

Similar to the above, it is possible that consumer preferences can vary with respect to geographical location and the state of economy where the consumer is residing. It is possible that consumer preferences in developed economies can vary to the preferences in developing economies. Further research can be helpful to create more targeted bundles for specific geographical locations.

The consumer purchase intention framework looks promising, but calls for more detailed and profound research. Answering the following questions would allow cause-effect and longitudinal studies:

Are the dimensions and elements of consumer purchase intention valid, and are there missing elements?

In this study, I examine only four factors influencing consumers' intentions associated with a purchase of a product bundle. Future research may include additional factors such as consumer innovativeness, purchasing power and risk aversiveness. Innovators might react to a bundling strategy differently than other consumers would. Since many

product categories from software to communication services are considered new-technology, future research might address how bundling strategies affect consumer decisions in different product categories. Future research might also explore marketing tactics that might be used to influence consumer perceptions of bundle positioning (i.e., which product is treated as anchor or tie-in; see [32]). Finally, I hope this study will stimulate further research in the areas of bundling, consumer purchase intentions and new product introductions in new technology markets.

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Thinking of purchase decision, involving a bundle, which of the following affects you? (Mark 1-4 in the order of importance with 1 as highest)

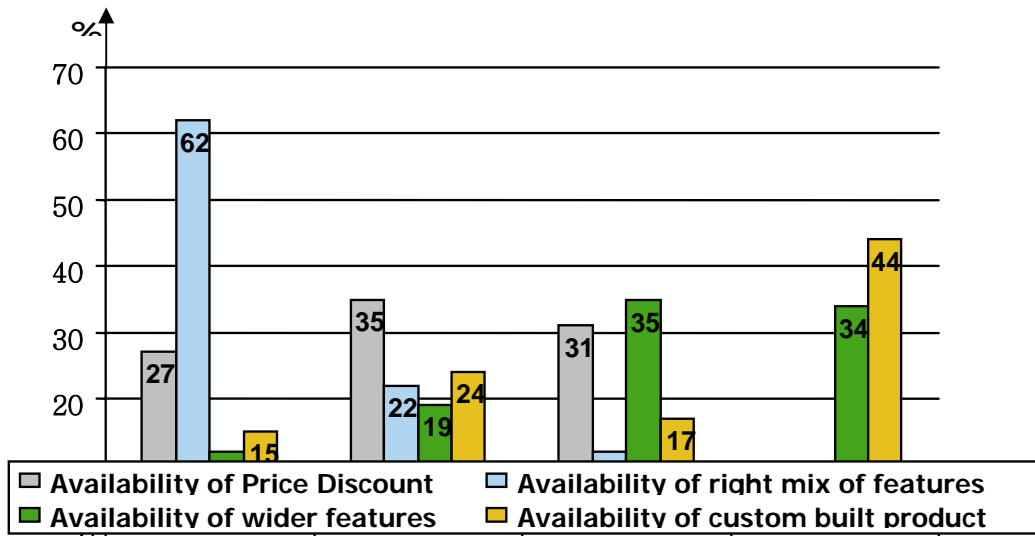


Figure 1: Consumer preference indicated in the survey.

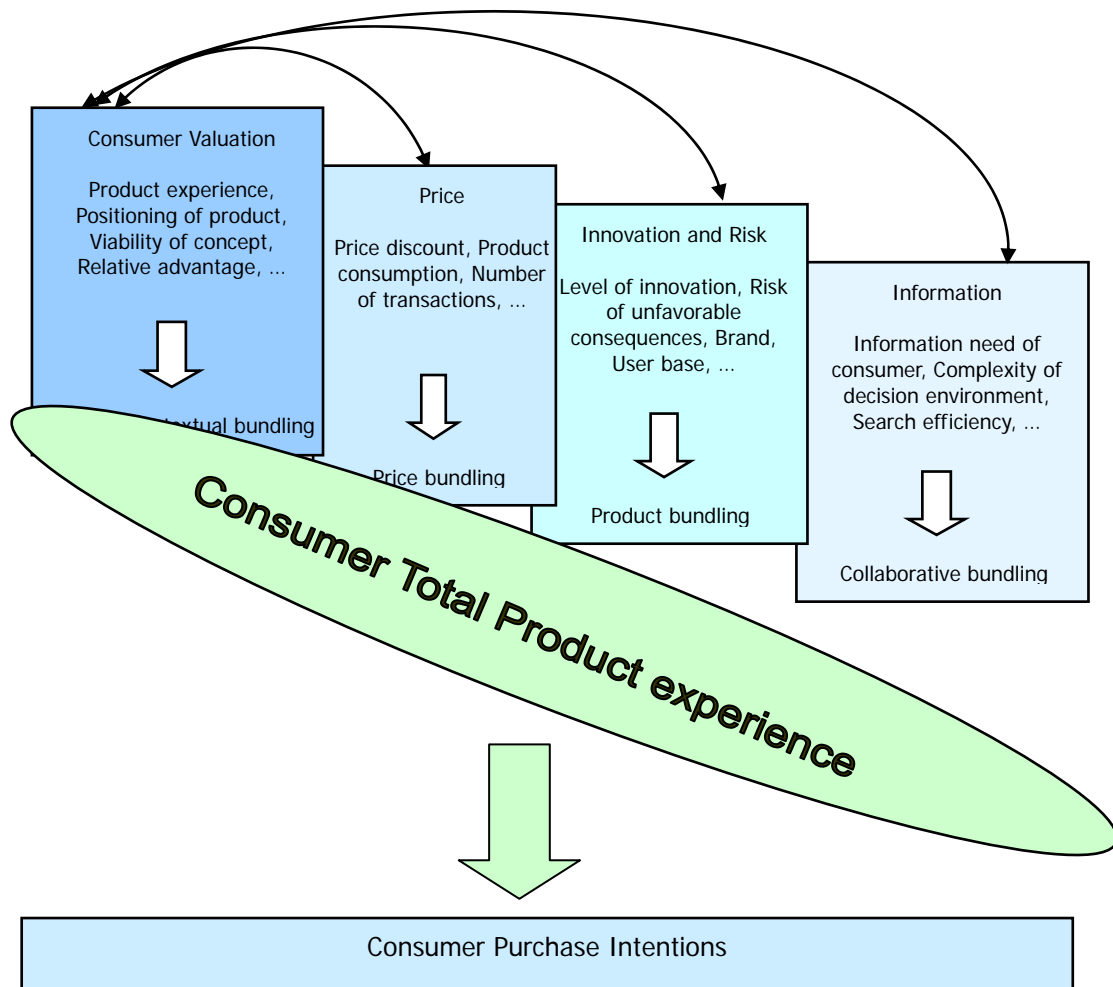


Figure 2: a combined framework of bundling and consumer purchase intentions