

A Model of Posted-Price Opaque Booking System Implemented for Indonesian-Market Online Travel Agent. Case Study: Klikhotel.com

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ABSTRACT

The subject of this research is to find out the most suitable of opaque selling strategy without diluting hotel brand and pricing policy to be implemented in Klikhotel.com, an Indonesian-based online travel agent (OTA).

The starting point of the research is a literature study in opaque selling theory, roles of OTA, and behavior study of Indonesian online market. It is followed by choosing a potential opaque selling mechanism and analyzing OTAs which have applied this mechanism. After analyzing similar systems, an adapted system is created for the current system of Klikhotel.com. It is used as a simple test market to measure the feasibility of a new product from customer's perspective.

We design a system that is less opaque to adjust the Indonesian market that still require photos and reviews in decision making prior to booking a hotel. Our design results in an additional tool in the Klikhotel.com extranet system which called 'mystery hotel' promotion, whereas for the customer module, we design that the opaque hotels displayed in a higher position than the non-opaque one to increase conversion rates. The opaque selling mechanism using this posted price strategy has been tested to Klikhotel.com current customers and has shown a positive result.

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1. INTRODUCTION

As a local online travel agent in Indonesia, Klikhotel.com strives to give the best service to its customers. One factor that has proven time to time that could bring customer satisfaction for an online travel agent is pricing competitiveness. Another five factors that are examined to measure customer satisfactions, including: ease of booking, usefulness of the information on the web site, availability of booking options/travel packages, appearance/design of web site, and ease of navigation [1].

Price as a big factor that influence on hotel purchases is also convinced by a polling that was held by Travelocity in 2008 [2]. Overall respondents report room rate having an average influence of 48% when selecting a hotel. About 21% respondents said best locations was the main criterion when choosing a hotel, while 14% of them mentioned the need of customer reviews. Preferred hotel chain is also important to 11% of respondents.

Moreover, because Klikhotel.com target market is Indonesian, price factor is even more important compared to a more developed country. Based on an Accenture research [3], the majority of Indonesian's consumers tend to be middle-income earners. Indonesian consumer behavior may differ from those in developed markets, since most shoppers are both highly price conscious and exhibit strong brand loyalties.

In order to get the best room rate, Klikhotel.com always looks for a creative way to negotiate a big discount from its hotel suppliers. One possible way to get it is a strategy of selling hotel's distressed inventory, defined as rooms remaining in inventory very close to the day of arrival with limited options to sell [4] and have a big chance to be unoccupied for a night so it may lose all its value for that night [5].

However, selling hotel rooms using a big discount scheme needs a well planned strategy. Hotels need a mechanism to sell hotel rooms at a discount price without destroying their own pricing structure. Fortunately, technology advancement brought by electronic commerce has enabled hotels to employ creative selling strategies called as an opaque selling. Opaque selling is the practice of offering travel inventory such as hotel rooms, airline, tickets, or car rentals at discounted prices while hiding the identity of the supplier

until after the purchase has been completed [6]. Hotwire.com and Priceline.com are the most important companies having successfully developed this strategy in the US market. They have developed opaque selling, in which the services' characteristics are concealed (hotel or airlines brands, exacts hotels' location or travel schedule) until the payment is completed [7].

However, the opaque strategies adopted by both companies are not necessarily suited to the characteristics of the customer in Indonesia. Therefore, the goal of this research is to find out the best practice of opaque selling strategy for Indonesian market without jeopardizing hotel's brand and pricing policy. The strategy is modeled to be implemented as an additional promotion tool in Klikhotel.com. This model is basically a proposed user interface for both Klikhotel.com supplier and customer modules that can be well integrated into the current transparent booking system.

2. RELATED WORKS

a. Opaque selling strategy

Opaque selling helps getting rid in the last minute of distressed inventories without exposing the brand as would be the case under discounted transparent rates. It is also used to target price sensitive consumers who are not too concerned about the specifics of their travel plans [8].

Two different selling mechanisms are utilized by opaque channels: Posted Price (PP), where the sales channel sets a policy take-it-or-leave-it retail price, and Name-Your-Own-Price (NYOP), where the sales channel accepts or rejects customers' bids and profits from the difference between the bids and the wholesale prices [14].

Opaque products typically go on sale only very close to the last minute time, i.e., after consumers have bought in the non-opaque channel but the hotel still have some unsold inventory. The hotels can accomplish opaque selling through an intermediary that obtain products from hotels and sell them to maximize their own profits. Thus, the opaque selling strategy is an essential tool for unsold room clearance [9]. Moreover this strategy benefits to get rid of rate wars amongst competition, and protects rate integrity. Based on best rate guaranteed policy, hotels match any rate for the same room and conditions a guest finds on a different distribution channel. However, that term does not apply to opaque rates [2].

The level of opacity varies across different opaque channels as some choose to offer cancellation opportunities (Lastminute.com), provide user generated feedback (Hotwire.com), or list some of the amenities offered by the service provider. Similarly the degree of opacity may also be impacted by the market, as markets with fewer similar competitors tend to have decreased opacity over markets with a larger number of service providers [10].

Although there are many researchers conducted in the last several years, there is still much disagreement regarding the economic benefits of opaque selling. This is because introducing opaque offerings benefits a hotel only if the incremental revenue from opaque sales exceeds the revenue loss from the cannibalization of customers who are willing to pay for a non-opaque product, but end up purchasing an opaque one. This is particularly relevant in the online retailer, where they only need a little effort to search for opaque offerings [11].

b. The role of online travel agent (OTA) in opaque selling

Opaque online channel offer hotels a convenient way to segment customers and distribute discounted products without cannibalizing full priced products. The opaque channels segment customers because regular full price paying customers desiring to stay at the hotel of their choice with full cancellation flexibility are different from those willing to purchase the discounted, non-refundable opaque product at the unknown hotel [1]. Opaque online channel can profit from such differences despite the fact that the opaque feature virtually erases product differentiation and thus intensifies competition in price sensitive market. It can help hotels reach new price sensitive consumers who otherwise remain outside their market. The low price of opaque services enables hotels to attract low value customers who are sensitive to price but less sensitive to service characteristics. On the other hand, the opaque feature prevents regular customers from switching to opaque channels because they would prefer to know hotel details [12].

Hotels can use OTA as revenue management tools. The OTA can be utilized in 3-ways: by selling the room-only rates, package (for example: flight + hotel) and distressed rates with or without opaque strategy. For example, hotels can take the room-only rates and use them as a standard occupancy that can be open and closed at anytime. They take the package rates (flight + hotel) for business customers in which the booking window is further out because they included a flight. Lastly, the distressed rates (the highest discounted rates) can be used as desperation rates for when they have weak occupancy, a group cancellation or room block drop-offs. The distressed rates selling may be combined with the opaque strategy if they prefer

to protect their brand. Having the ability to run all of these rates puts the hotel in front of the customer with any trip situation (business, vacation or last minute) [2].

c. Indonesian online consumer shopping behaviour for hotel booking

According to a survey research conducted to 470 respondents in Indonesia, hotel was one of the most products bought online, along with travel arrangement, transportation ticket and service banking [13]. Based on survey's result analysis, demographic factors that have influence in hotel's online purchase are age and expenses. Most hotel purchases was done by customers aged 30-39 or having expenses per month more than IDR 5,000,000.

The survey also studied customer motivations that affect online purchase. This motivation was grouped into 3 parts: satisfaction, review and leisure. Factors that contribute to each motivation could be seen in detail in table 1. It is shown that dominant motivations in frequent online purchase are DECM7, DECM8, DECM9, DECM10, DECM11 and DECM13. The strongest motivations found between them are DECM9 and DECM13, which are online reviews for a product and the quality of product's images.

Table 1. Factor of motivation in online shopping

Factors	Motivation in online shopping	
Motivation Satisfy	DECM1	Try to find a specific product
	DECM3	Choose an online shop that I have been experienced before
	DECM4	Often do online shop if the website is easily to use
	DECM5	Often do online shop if the website is attractive
	DECM6	Often do online shop if there is an adequate information about the product
	DECM7	Often do online shop if the website give useful additional information
	DECM12	Often do online shop if the website is secured
	DECM13	Often do online shop if product's photos are vivid, interesting, good quality
Motivation Review	DECM8	Don't do online shop before reading online review
	DECM9	Online review helps for searching a proper product
	DECM10	Online review helps for buying decision
Motivation Leisure	DECM2	Impulsive shopping in online shop
	DECM11	Use a social media website to help a decision making

3. RESEARCH METHOD

In this research we conduct 5 steps as following:

1. The starting point of the research is a literature study in opaque selling theory, the role of OTA, and behavior study of Indonesian online market.
2. Choosing an opaque selling strategy that will be implemented: Posted Price or Name Your Own Price.
3. Finding, choosing and studying the chosen online travel agent which has an opaque selling system, i.e. Hotwire, Lastminutetravel and Wotif. The study give us a better understanding about how to display an opaque product-which hotel's attributes are hidden, as well as to find out the opaque product's selling procedure.
4. After analyzing similar systems, an adapted system is created to the current system of Klikhotel.com. The adapted system is used as a simple test market to measure the feasibility of a new product from customer's perspective.
5. Analyzing and designing a proposed system that suitable for Indonesian market. The main concerns are displaying an opaque product to the customers and propose a business process to guarantee the quality of opaque products. We also design a promotion tool to enable hotel suppliers submitting opaque pricing, and propose an adjustment to integrate opaque booking system to Klikhotel.com current system.

4. RESULTS AND ANALYSIS

In this section, we explain the results of research that comprises two parts: analysis and design. The analysis part consists of analysis of a similar and a proposed system. The design part consists of user interface design for the front end (customer module) and the back end (supplier module).

We choose the posted price mechanism because the way it works does not require a lot of changes to current Klikhotel.com business process. The opaque product will be displayed in the same way as the regular one with several omitted attributes such as hotel address, descriptions, and exterior photos.

a. Analysis of similar systems

We compare three opaque travel sites in this research: Lastminutetravel, Hotwire and Wotif. The goal is to find out how to display the opaque products and how rules and restrictions apply to them.

Table 2. Comparison of opaque booking system

	Hotwire	Wotif	Lastminutetravel
Data displayed	The hotel star rating General area Hotel map area(region)	Hotel star rating General area Hotel amenities Hotel amenities Hotel general description	Hotel star rating General area Hotel map area (region) Hotel amenities Hotel general description Room pictures only Limited information of review
Data hidden	Hotel brand Hotel specific address Hotel picture Hotel amenities Hotel general description Room pictures only Guest review	Hotel map Hotel brand Hotel specific address Hotel picture	Hotel brand Hotel's specific address Hotel's picture (front building, facilities, etc)
Rules and restriction	All bookings are final and cannot be changed, refunded, exchanged, cancelled, or transferred to another party	No Cancellations or Changes	Cancellation policy applies

Table 2 shows that the most opaque product is provided by Hotwire, while Lastminutetravel provides the less opaque one. In general, they hide all attributes that can directly identify the hotel such as exact location/map, hotel brand/name, and specific address.

b. Testing of opaque selling and market survey

The opaque booking interface that can be easily adapted to current Klikhotel.com system is the one provided by Wotif. Thus, we create several opaque products in the current Klikhotel.com manually based on Wotif. These opaque products are generated as new hotels with a unique hotel ID, and they are considered as a different hotel and do not have any relations to the transparent hotel (the real hotel). The lack of such system is that the voucher cannot be generated automatically when the customer books the hotel. The voucher must be created manually using a special procedure where the admin has to manually match the opaque hotel with the transparent one, and as a consequence, instant bookings are not possible.

Nevertheless, after few trials of selling opaque products in about 2 months, the result is considerably positive. There are 25 paid orders in total sales for about IDR 27 Million. It shows a good sign that this kind of promotion is accepted by Klikhotel.com customers.

c. Analysis of a proposed system

Based on Table 1, we formulize for our system that DECM7 (product information) will be represented as hotel profile, hotel facilities and room amenities, and hotel map, whereas DECM8, DECM9 and DECM10 (product review) will be represented as review rating and selected reviews with limited contents than can give tolerable information to customers during searching and decision making process. In addition, we also use DECM13 (product image) to be implemented as a very limited room images.

Table 3 shows the data displayed, data hidden, as well as the cancellation policy of the proposed opaque system in Klikhotel.com

Table 3. Comparison of opaque booking system

Data displayed	The hotel star rating, general area, hotel map area, room amenities, hotel general description, room pictures, and limited information of review
Data hidden	Hotel brand name, specific address, exterior pictures (front building, facilities, etc)
Reservation boundaries	All bookings are final and cannot be changed, refunded, exchanged, cancelled, or transferred to another party

d. System Design and business process

Figure 1 shows the promotion tool provided for Klikhotel.com supplier in which they can submit their opaque pricing strategy. After a successful submission, the system will generate a new property "Mystery Hotel" for its counterpart transparent hotel that has a relation in the database. To ensure the quality of the submitted hotel, Klikhotel.com has an acceptance policy based on several factors such as average review rating, best available rates (discount price), and the proximity to places of interest.

1. Travelling Period : until
 Valid for next : days

2. Do you want to put black-out period?
 No
 Yes

3. Is this promotion applicable to any days of the week?
 Yes
 No

4. Please choose applicable room type for this promotion:

Choose	Room Type	Current Average Price
<input type="checkbox"/>	Superior	500.000
<input type="checkbox"/>	Deluxe	700.000
<input type="checkbox"/>	Executive	900.000
<input type="checkbox"/>	President	1.300.000

5. Room Inclusions

Room Type	Room Inclusions
Superior	include breakfast for 2 persons
Deluxe	include breakfast for 2 persons
Executive	include breakfast for 4 persons
President	include breakfast for 6 persons

6. Discount Scheme

by Percentage Discount by Amount Discount (per night)

Room Type	Discount Rate at D-Day after the following hour				D+1 to D+14	D+15 to D+27
	22:00	20:00	18:00	16:00		
Superior	60%	50%	40%	20%	20%	10%
Deluxe	60%	50%	40%	20%	25%	10%
Executive	60%	50%	40%	40%	25%	20%
President	70%	60%	40%	40%	25%	20%

Figure 1. Promotion Tool for Submitting Opaque Pricing

For each booking of a mystery hotel (i.e. Mystery Hotel A) will be processed automatically as its original property (i.e. Hotel A) at the back end system without the need of manual processes or procedures. To maximize the sales, Klikhotel.com system will generate many auto-schedulers in the application server to maintain the discount schemes of each hotel. As for the database [15], there will be a slight change in the structure where we need to add a new “Mystery Hotel” table that has a one-to-one relation to the “property” table and also add an additional promotion type.

Figure 2 shows the design of opaque hotel in customer module. As we can see that the hotel name is hidden with a limited room pictures while still give access to a limited hotel map and guest reviews. For customer perspective, there are no major changes in the booking/business process to make sure they will not experience any difficulties when browsing the website.



Figure 2. Opaque hotel display in customer module

5. CONCLUSION

This research has produced an analysis and design of opaque pricing mechanism for Klikhotel.com which hides hotel brand name, specific address, and exterior picture. Adapted to Indonesian market, we deliberately design the system that the opacity level is not too high or too low because of the trust of Indonesian consumers are still influenced strongly by hotel room photos and reviews. These photos and reviews are selected manually to retain a degree of confidentiality, but still give a sense of trust to the customers. Our design results in an additional promotion tool in the Klikhotel.com supplier extranet system

which called 'mystery hotel' promotion, whereas for the customer module, we design that the opaque hotels will be displayed in a higher ranking/position of the non-opaque hotel to increase conversion rates.

For further development, we suggest automatic filtering/acceptance for opaque submission in the next research as well as another way of opaque mechanism such as online bargaining booking that intentionally hide the room rates rather than the hotel information.

REFERENCES

- [1] C. Butsunturn, "E-Commerce Satisfaction Soars in American Customer Satisfaction Index", 19 February 2008, <http://www.reuters.com/article/pressRelease/idUS122186+19-Feb-2008+BW20080219> (accessed 22 June 2013)
- [2] G. Kinchen, "Travelocity and the opaque booking model: New ways to stimulate incremental revenue", UNLV Theses, Paper 541; 2005
- [3] B. Delteil, K. Gan and C. Kevin, "Emerging Market Entry-Candidates—Indonesia", 21 September 2011, <http://www.accenture.com/us-en/Pages/insight-emerging-market-entry-candidates-indonesia.aspx> (accessed 22 June 2013).
- [4] HSMIAI, "Distribution Channel Analysis: a Guide for Hotels", 23 January 2012, <http://www.hsmiai.org/knowledge/whitepaper.cfm?ItemNumber=5614> (accessed 22 June 2012)
- [5] P. Kumar, "Revenue Management for the Hospitality Industry Part I" http://www.revenueyourhotel.com/index.php?option=com_content&view=article&id=140&Itemid=20 (accessed 22 June 2013)
- [6] P. Courty and W. Liu, "Opaque Selling: Static or Inter-Temporal Price Discrimination", CEPR Discussion Paper no. 9463, London, Centre for Economic Policy Research; 2013
- [7] M. Ogonowska, "Selling Tourism Products Through The Opaque Channels", e-Review of Tourism Research (eRTR), Volume 10 Issue 3, ENTER Conference Short Paper 3, August 2012
- [8] P. Courty and W. Liu "Opaque Selling in the Hospitality Industry: Hotwire's Hot Rates", Teaching case, University of Victoria; 2012
- [9] K. Jerath, S. Netessine and S.K. Veeraraghavan, "Selling to Strategic Customers: Opaque Selling Strategies", Tepper School of Business. Paper 215; 2009
- [10] C.K. Anderson and X. Xie, "A Choice-Based Dynamic Programming Approach for Setting Opaque Prices", Production and Operations Management, 21: 590–605. doi: 10.1111/j.1937-5956.2011.01293.x; 2012
- [11] K. Han and D. Zhang, "Demand and Revenue Impacts of the Opaque Channel: Empirical Evidence from the Airline Industry", Workshop on IS and Economics (WISE), St. Louis, MO; December 2010
- [12] Shapiro, A. Dmitry and X. Shi, "Market Segmentation: The Role of Opaque Travel Agencies", Working paper series; February 2008
- [13] M. Purwanegara and F. Andika, "Measuring The Potential of Indonesian Online Consumer Shopping Behaviour", 4th International Conference On Business And Economic Research (4th ICBER 2013), Bandung, 2013
- [14] R.R. Chen, G. Esther, and P. Roma, "Opaque distribution channels for competing service providers: Posted price vs. name-your-own-price mechanisms", Working Paper 1–62, 2011
- [15] N. Ibrahim and Verliyantina, "A Virtual Marketplace For Online Hotel Reservation System In Indonesia: Case Study Klikhotel.com," *Konferensi Nasional Sistem Informasi (KNSI)*, STIKOM Bali, 2012

BIBLIOGRAPHY OF AUTHORS

	<p>Niko Ibrahim</p> <ul style="list-style-type: none"> • Aplikasi Pengendalian Persediaan Produk dengan Perpetual Inventory System dan Pemilihan Supplier Optimal dengan Metode PHP. <i>Jurnal Sistem Informasi</i> Vol. 6, No. 1; Maret 2011, 51-59. ;ISSN 1907-1221 • Pembuatan Sistem Informasi Akademik Sekolah Menengah Atas Swasta XYZ Menggunakan Java Enterprise Edition. Seminar Teknik Informatika dan Sistem Informasi (SETISI) 2011 • A Virtual Marketplace For Online Hotel Reservation System In Indonesia: Case Study Klikhotel.com. <i>Konferensi Nasional Sistem Informasi (KNSI)</i> 2012 • The Model of Crowdfunding to Support Small and Micro Businesses in Indonesia Through a Web-based Platform. <i>Procedia Economics and Finance</i> Vol. 4, 2012, 390–397; ISSN: 2212-5671 • Platform Crowdfunding Berbasis Web Untuk Donasi, Sponsorship, dan Pendanaan UKM. <i>Konferensi Nasional Sistem Informasi (KNSI)</i> 2013
	<p>Verliyantina</p> <ul style="list-style-type: none"> • A Virtual Marketplace For Online Hotel Reservation System In Indonesia: Case Study Klikhotel.com. <i>Konferensi Nasional Sistem Informasi (KNSI)</i> 2012 • The Model of Crowdfunding to Support Small and Micro Businesses in Indonesia Through a Web-based Platform. <i>Procedia Economics and Finance</i> Vol. 4, 2012, 390–397; ISSN: 2212-5671