Unlocking Concert Experiences: Mobile Economy Maximization
Bundles Transforming Ticketing Dynamics

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Abstract
Mobile Economy Maximization Bundles are theoretical all-inclusive bundling packages, curated to out-of-town travelers coming into a specific municipal city for a live music event. The packages include hotel stays, base and premium food options and tickets to the event itself, dynamically priced based on forecasted demand by a demand rate \( ? \). Bundles would open to public sale at a pre-destined time, but because hotels will be able to buy a select number of tickets ahead of time, they do not need to contend with the general sale, giving them a fixed number of tickets at MSRP prices which can be passed to the customer, and customers would gravitate to hotel providers offering this system over competitors who do not. The structuring of these entertainment bundles is an effort to improve the experience for traveling consumers but also a response to rising scalper prices of concert tickets where, in 2023, in-demand concerts such as the Taylor Swift Era’s Tour, scalper tickets were priced anywhere from 614.29

Index terms—consumer, demand, assumption, concert tickets, resale market, demand structure, demand function, economic bundling, bundles, behavior

1 Introduction
In the recent few years, the popularity of live music performances skyrocketed amidst a return to postpandemic living. The concerts have returned in full force, and this time, seemingly bigger than they previously were. One such highly talked about event was The Taylor Swift Era’s Tour, a 3-hour per show extravaganza of the Grammy-winner’s entire catalog, which made huge headlines throughout 2023, grossing an estimated $4.6 billion in consumer spending between ticket sales & concert merchandise to local stores, restaurants & hotels in cities it played in [3] dethroning Elton John’s Farewell Tour record of $949 million and becoming the highest-grossing stadium tour ever put on. The Era’s Tour created a buzz across many topics, but none more interesting than its effect on the local economies of the cities it was stopping in during its 52-date 2023 schedule, generating thousands of additional revenue dollars for businesses within the vicinities of the venues and hotels out-of-town concertgoers were traveling too for the shows. From concert tickets to hotel rooms, outfits, merchandise, food and drinks, out-of-towners (OOT) have a hefty bill to front sometimes for traveling to see a concert, especially one where the average concert-goer spent an average of $1300, per person, to attend in all these costs summed; resale tickets soared much higher, with an average of $3800 [3].

One of the largest surges to cost for concertgoer’s over the past year was the resale/scalper issue, caused by a "fundamental lack of supply, [with] U.S. President Biden proposing legislation targeting ticketing companies [14]. The “Junk Fee Protection Act” would require an all-in-pricing model, requiring brokers to fully disclose all fees upfront [15]. The solution proposed in this paper does not require legislation but aims to further break-up the monopoly of resale tickets, and fully embraces the spirit of all-in-pricing through a community-based all-inclusive model.

The prices of the Era’s Tour did not strictly come from external costs such as hotel stay and food, but from the costs of resale tickets on the open market system in place today. With some shows having over 70,000 tickets, the
resale values for Taylor Swift’s Era’s Tour were mind-blowing, and showed no signs of slowing down, the lowest
price ticket for the worst quality section is up 2655.1% from their MSRP price for her end of 2024 dates already
on sale [8] [9] [10]. The high resale value left thousands of people unable to afford tickets, another example of the
unequal balance of wealth tipping the scales in favor of a single party. Taylor Swift wasn’t the only tour affected
by surging resale prices, in fact, the typical price of tickets has more than doubled since 2019, from $125 to $252
in 2023 [with] sold-out acts like Beyoncé, Bruce Springsteen, John Mayer, Bad Bunny and more” [7][13].

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The solution to this, or at least in part, would be through the creation of entertainment consumption bundles,
aimed specifically at the out-of-towner (OOT) concertgoer. The idea is to create levels of all-inclusive packages,
available through patches to current hotel booking applications/websites, that employ different combinations of
common commodities such as hotel room and tickets, hotel room, tickets and buffet food, and then more premium
options which would include vouchers to local restaurants.

In the study of mathematical optimization, Langrangian multipliers are effective in showing the maxima
and minima of a function subjected to conditions, particularly with equality and inequality constraints. This
makes showing the most beneficial choice to the consumer amongst a set group of choices subject to the same
constraints, easier for the reader. Using Lagrangian multipliers to maximize utility with wealth constraints, we
will show these all-inclusive options come at a better deal to the OOT consumer, which would lead to a higher
embrace of this system by consumers, as the resale of concert tickets would not be possible when tied together
through this all-inclusive package.

A new domestic LLC, the Mobile Economy Bundle Commission -MEBC, would need to be established to
implement agreements between ticket providers such as Viagogo (StubHub) or LiveNation, hotel providers and
local businesses within each municipality served, creating not only new permanent jobs but hundreds to thousands
of regular unskilled temp work across the nation to cover new necessary labor. A small percentage of tickets
available would be held from public sale for the purposes of selling as part of these packages, named Mobile
Economy Bundles (MEB), and will be defined further in the methodology section. Over the next few pages,
we will show models based on lagrangian multipliers for all-inclusive entertainment bundles and compare these
models to the current spending structure and averages for out-of-town concert-goers, showing first that bundling
benefits the consumer and secondly, that local municipalities can also benefit from a bundle structure, by being
able to better meet demand rather than unprecedented demand. We then introduce a dynamic pricing model
based on the lagrangian outcomes.

3 II. Background

The OOT has to always contend with the costs of traveling and with the resurgence of live music, traveling for
concerts is expected to rise over the next decade. In a 2023 report by Business Research Insights, “the global
live music market size was USD 11490 million in 2022, as per our research, the market is expected to reach USD
18,348.54 million in 2031, exhibiting a CAGR of 5.3% during the forecast period” [1]. The below bar graph is
sampled from the summary of this report.

4 Source: Business Research Insights

Factors such as "an upsurge in disposable income, development and a modification from outdated entertainment
concerning live music shows, the growing number of social events & festivals and the rising ability of fans to
become prominent players in the improving growth market” contribute to the growth rate found by Business
Research Insights [1]. The cost of traveling in general has risen over the years, as most industries do. In the
post-pandemic marketplace, consumers have decided it is once again time to explore and spend, but do so now
in a much more inflated and cost-heavy world.

For concert travelers, the costs can be even higher. In a 2023 Wall Street Journal article, one couple traveling to
a Phoenix, AZ Taylor Swift show flew halfway to Las Vegas and renting a car for the rest of the trip, costing over
$1000 one-way [2][13]. For the average family to travel for a concert, or even a group of friends, transportation,
lodging and food are the highest costs outside of tickets to the actual event. As reported on a 2023 analysis
by BudgetYouTrip.com, with data provided by the travel booking website Kayak.com, a one-night stay in the
United States is ?$171, a 3-night stay is ? $513, a week-stay is ? $1,197 and two-week will cost you ? $2,393 [7];
we used data from this analysis to construct the below cost tables. Kayak.com is a global meta search engine
owned by Booking Holdings used for the comparison of rates of hotels and travel options in operation since
2005. Concerts like the Era’s Tour, Bruce Springsteen and Bad Bunny had
thousands of consumers traveling hundreds and even thousands of miles to see the shows. We will break down the
average costs of traveling over the next two pages for a typical group or family of four to travel. Once travelers
arrive in their destination city, they must then contend with the next two variables of travel, lodging, and
food/drink. Table ?? shows these averages on a per-night basis, please note that average room rates vary greatly
based on a number of external factors not controlled for in these averages. Finally, the cost of food and drink is
a large and often overlooked variable. Table D shows the average perperson meal costs while traveling. Costs for
an average family of four traveling within the United States to attend a live concert experience, excluding the
cost of event tickets and assuming no alcoholic beverages are purchased, can be in table E. OOT also generates
quite a substantial additional revenue for the local municipalities they travel to for the concert itself, often at an
unprecedented rate for the local businesses. During the stop in Chicago, travelers for the Era's concert occupied
44,000 hotel rooms in the city, a 97% booking rate, nearly half the direct spending coming from consumers that
came into town just for the show, spending an average of $575 more than local fans did [4]. As Time reports,
"typically every $100 spent by [music] artists &management to put on a show, generates ? $300 in local ancillary
spending, but consumers on the Era’s Tour spent ? $1300-1500” ??11].

With our common traveling commodities now defined and shown by averages, we can now review the cost of the
tickets. While general sale tickets of the typical U.S. concert have not risen dramatically, they have certainly
changed. As reported by CNBC, data from music trade publication firm Pollstar shows that "overall, concert
ticket prices are up an estimated 17.8% compared with 2019; halfway through this year, the average ticket price
hit $108, compared to about $92 in 2019” [5]. For the Taylor Swift Era’s show, tickets were much higher, falling
to an average of $130. For concert tickets, consumers are faced with the dilemma of whether to buy as many tickets at MSRP value as possible, only to resell them later through the same ticketing system at
markups sometimes thousands of percentage points higher.

Table F below shows some of these figures, gathered from StubHub.com, and focuses on three late-2024 U.S.
shows that the Era’s Tour will stop in: Indianapolis, New Orleans & Miami. The last piece of background
information we should review is the rising popularity of the "all-inclusive" package. The idea behind this type
of consumer bundle stems from the original Club Med design, the idea that travelers pay one fee and have all
their basic essential needs taken care of including lodging, food, and in some cases transportation. In December
2022, hospitality analytics firm STR reported that travelers booked an estimated 9.2 million all-inclusive rooms,
an 80,000 unit increase from December 2019 [6]. Some of these chains offer packages which also include vouchers
for local dining outside of the resorts, allowing consumers to choose whether they eat their meals for free at the
resort or eat more premium meals offered by

local restaurants at a discount to the consumer through the vouchers. The Washington Post also reported that
in 2021, major hotel chains like Hyatt, Wyndham, and Hilton have all expanded their all-inclusive options, both
domestically and abroad, by nearly 75% since 2021 [6].

Based on our background review, an average family of four will spend around $3000 traveling to a Taylor
Swift Era’s Tour show and another $4000-4600 on tickets for the show at resale rates, an average cost of $7000-
7600. Though the average rate of a sellout for concert tickets is approximately 20 minutes [12], because of the
demand for shows such as these, tickets sell out typically within minutes, leaving the average consumer to contend
with the resale price. Over the next few pages, we will show how an all-inclusive domestic bundle within our
Mobile Economy Bundles (MEB) structure would have saved the family of four some money while increasing the
potential local spending within the municipality of the concert venue. The idea is to reduce the impact of the
resale market for in-demand shows on the consumer’s budget while spreading revenue at a greater distribution to the surrounding local economies.

11 III. Methodology

An economic bundle is microeconomic tool used to sell two or more commodities together as a package, with the aim of reducing either cost or complexity to the consumer. Typical examples of these range from the Microsoft Office bundle (Word, Excel, PowerPoint together) to Black Friday deals, where a consumer might be able to purchase a TV, speaker system, and entertainment console for a fraction of the cost if purchased separately.

In this empirical approach, we will build three all-inclusive bundles tailored around the out-of-town (OOT) traveler’s needs when they are coming to a particular municipality for a concert or similar entertainment show. First, a small LLC (Mobile Economy Bundle Commission - MEBC) dedicated to facilitating Mobile Economy Bundle (MEB) structuring would be instituted, focusing on working with ticketing providers and hotel chains as well as brokering partnerships between hotel providers, ticket agents, increased food supply, labor coordination and system implementation. The MEBC provides a “middleman” to the entire structure of the bundles, as well as a technological hubspot. The initial construction of this commission would also be responsible for creating a central database and assimilating it into the existing booking applications used by hotel providers today. This central database would entail the demand rate function (explained further below) and be responsible mainly for purchasing the tickets used in the MEB structure, ensuring an autonomous source from the hotel providers and providing an equal share of tickets for events amongst the hotel providers participating in MEB in any given city. The hotels benefit from this by not needing to be a part of the ticketing process and the guests benefit from one hotel provider raising or lowering ticket prices in tandem with local competitors. MEB is essentially responsible for creating and maintaining this interactable database and continue to provide booking applications with current MEB pricing.

We would structure pricing tiers through new “Reason for Stay” gathering functionality built into booking applications/websites, mandated by new useragreement regulation requiring booking providers to collect “Reason for Stay” from guests during the checkout process. Users would be informed of the existence of this through marketing campaigns as hotel providers roll out their various MEB upgrades to their individual apps. The coordination of this setup would also fall to the responsibility of the MEBC, ensuring the functionality follows a framework uniformity to MEB’s overall intention, which is namely making the OOT experience easier on the guests. Though each provider can approach it in their own way, generally each redesign would need to ensure that guests booking stays for Entertainment are sorted into rooms allocated for MEB guests, while those coming for non-Entertainment are not affected. Built into all booking apps (required now by hotel providers) options customers may choose:

1. Business 2. Entertainment (Seeing a concert or play) 3. Other (please specify)

We then allocate confirmed guests based on their responses to these questions, where “Business” and “Other” responses do not have access to the allinclusive entertainment bundle structure and are not charged as an MEB customer. Hotel booking apps would be refitted with a MEB integration, which focuses mainly on the MEB customer. If a user selects one of the other options, they will be passed into the current-day booking application, whereas choosing “Entertainment” will now pass users to the redesigned version of the booking application, now fitted with MEB framework to handle the new setup, all designed and implemented through the MEBC.

Those who choose “Entertainment” will then be able to search for entertainment bundles based around the date of the show and the availability of packages left for the specific entertainer, all updated in hotel booking apps through integration to the MEBC databases. These packages would be non-transferrable, and returns are authorized only to the original purchaser, which then places the returned package back into the general queue. Customers would all be able to return purchased packages for their original payment amount, and the packages themselves would be cycled back into the available rooms through the MEBC database. The MEBC would operate the ticketing sales through their

12 Unlocking Concert Experiences: Mobile Economy Maximi-
First, the MEBC would buy a fixed percentage (relative to maximum availability) of available show tickets prior to the general sale, one that allows them to buy a specific number of tickets in specific sections at MSRP prices, which can later be fixed into the function for the three bundles at three different price points of a particular bundle shown as \( [(?? 1 ?? 1 ), (?? 2 ?? 2 ) , (?? 3 ?? 3 )] \). The percentage of general tickets purchased by the MEBC should never be higher than 9% of the total availability in general sales. From section types categorized in the Pricing for rooms and basic food package (buffet/on-demand style) will be semi-fixed costs variable only to local inflation\% taxes, with the bundle price being primarily determined by the demand for the show; all packages include a room and basic buffet mealplan. Sales for MEB packages to shows will go on sale the day immediately following the general sale, allowing demand for the current show to be more accurately gauged for sales in the entertainment bundles. The sales of each section in the general ticket sale will then be converted to a demand rate \( ?? \) which can be inserted into our later overall bundle price function. The equation for demand rate can be shown as:

\[
????(?? * ?????) - (?? * ????)? ?? ?? ????((?)?)
\]

Where \( ?????(?)\) and \( (????) \) are variables representing the change in quantity sold and quantity available in each section and \( ? \) represents the value of the derivative of the tickets sold over the passage of time since the tickets went on sale in the general sale.

The application of the demand rate will allow the MEBC to price packages according to the demand of both the show in general, and to the specific seating section the consumer is seeking. The demand rate also replaces the string of booking fees, mobile fees, and otherwise "surprise" or "hidden" fees consumers typically face in both the resale market and the separate (non-packaged) buying experience in general. We then can price bundles by:

\[
????(?? * ????)/ + ?????? + ?? + (?? * ??)
\]

where \( bt \) represents the base price of the MSRP ticket cost, \( R \) represents the quality of room desire, \( M \) shows the meal plan cost and \( x \) represents the number of guests in a package, all in summation of a customers total cost \( x \). If consumers choose local dining voucher options (based on local availability), a cost equal to some fixed percentage of the value of said voucher would be added to this above summation function.

### 14 IV. Results

We will continue to use the Taylor Swift Era’s show to work through our example. Per CNN Business and Question Pro Data, the “average attendance per show was 72,450, accounting for closed-off areas and floor seats” [4]. To make the math easier to show, we will round this off at 70,000. Our example is an extremely in-demand show, so we will show how the MEBC buy the maximum number of allowed tickets prior to the general sale (9%) so the MEBC purchases 6,300 tickets, divided up amongst the five seating section types deemed by the MEBC. The maximum of U on the commodity bundles given by the wealth constraints satisfies the following:

\[
?? 2 ?? 3 = ???? 0 1 1 1 = ????? 2 ?? 2 = ????? 3 ?? 3 ?? 2 = ????? 3 ?? 3 ?? 2
\]

Showing they are all equal:

\[
?? 1 ?? 2 ?? 3 = ???? 1 1 = ????? 2 ?? 2 = ????? 3 ?? 3
\]

When \( ?? = 0\), this forces one variable to be equal to zero, making the utility zero. Because \( ?? 0 \) in our case, we show:

\[
????(?? * ?????) - (?? * ????)? ?? ?? ????((?)?)
\]

The three commodities in our case are tickets, hotel, and food. Assuming you were unable to buy a ticket at the general price, you are left with two options, either find one that offers good deal on the resale market or buy an MEB package, where your ticket price is determined by a preset demand rate. At resale rates of $3300 and $2500, we compare the MEBC price of $1827. The MEB structure is still the best price for the consumer who was not able to get the concert tickets during the general sale. The idea of bundling lodging and experience together also fosters the idea of these bundles being exclusively for out-of-town travelers, as domestic guests and consumers local to the area would not rent lodging for the event, which may create unforeseen burdens on local concert-
goers, such as a smaller availability of tickets. This structure would benefit the average consumer, but not all, as some are better "bargain-shoppers" and through loyalty programs, discounts and other heterogeneous factors. This structure also does not take into account special needs of some consumers, such as dietary restrictions or customizations, which would result in additional spending on behalf of the consumer, which is absent from the calculations and should be considered in a real-world application. There is also no inclusion of alcohol or merchandise sales allocated in this structure, which may make it more appealing to larger mass if offered.

15 V. Conclusion

Consumers are always on the prowl for better, more beneficial deals, and municipality cities are always going to want new and innovative ways to bring out-of-town consumers to their cities. Consumers getting a deal such as the mobile economy bundles will save more on the overall cost of travel, reducing their personal spending barriers into a more relaxed approach once they are actually in the city for the event. Without the financial anxiety and decision fatigue of where their meals will come from, whether or not they will have a decently priced place to sleep, or even whether or not they even have tickets to the event at reasonable prices, can all be reduced through the implementation of a system such as MEBC.

Unlocking Concert Experiences: Mobile Economy Maximization Bundles Transforming Ticketing Dynamics

17 Global Journal of Management and Business Research (B) XXIII Issue VI Version I Year 2023

This will also reduce the amount of resale tickets being scalped from the general sales as it reduces the availability of tickets scalpers can buy initially and resell for profit down the line, closer to the actual show date and while the initial reduction in general sales tickets may cause a temporary surge in the pricing of resold tickets, the demand should meet closer to equilibrium as the MEBC system becomes more ingratiated and experienced. The MEBC would expect to grow its availability in multiple hotel providers, both national and local, over time as the market reacts to its existence, which will lead to a balancing in pricing of tickets, as now people have more ways of buying them past general and pre sales. The reactionary demand rate introduced by the MEBC also allows it to fluctuate with future market changes, such as the introduction of more ticketing providers, performing spaces and hotel providers, as it calculates bundle prices in real time and based on demand of tickets. This would realistically make the MEBC both scalable and secure in longevity, due to the adaptiveness of its composition. The improvements in technology like A.I., data retrieval and manipulation and anti-laundering would continue to aid the system as well, giving it more resources to utilize in its mission, while creating both skilled labor jobs in the MEBC itself down to the surge of skilled & unskilled labor required to implement and maintain it.

The success of a system like the MEBC would not only bring more tourists into participating municipalities resulting in more traffic through local businesses, but could also create more permanent jobs in the restaurants and hotels, which incentivizes local businesses like these to adapt and promote the system itself. MEBC is structured very much as a "communitymodel", meaning that the more collaborative the community is in promoting and harnessing their MEB structures, the more returns they will see from it. The concert-goer benefits as well, not only do they already have lodging and food in place (and paid for), they are also able to get generally better seating than they would've in the resale market, which comes with far less anxieties than buying through a scalper.

Going out of town to see a show should not cost the price of a college semester, and making memories does not need to be a credit card bill for years to come. Through coming together, we can all experience more.
Figure 1: Unlocking

Table A
Transportation Type | Average Cost (Family of Four)
--- | ---
Domestic Plane Tickets | $1,320.00
Airport Parking | $130.00
Rental Car | $292.00
Gas | $228.00
Total | $1,970.00

Table B
Transportation Type | Average Cost (Per Person)
--- | ---
Domestic Round-Trip Flight | $330.00
International Round-Trip Flight | $810.00
Rental Car (Daily) | $73.00
Gas (Daily) | $57.00
Airport Parking (Average, Daily) | $(42.50)
Public Transit/Rideshare (Daily) | $36.00

Figure 2: Table A

Table D
Meal Type | Average Cost (Per Day, Per Person)
--- | ---
3 Meals (one person) | $46.00
Average Restaurant Meal | $18.00
Alcohol (one person) | $21.00

Figure 3: Table D
### Table F

<table>
<thead>
<tr>
<th>Section</th>
<th>Standard Ticket Price (Average)</th>
<th>Resale Ticket Value (Average)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farthest Section (Bad View)</td>
<td>$49.00</td>
<td>$1,350.00</td>
</tr>
<tr>
<td>Farthest Section (Good View)</td>
<td>$98.00</td>
<td>$2,025.00</td>
</tr>
<tr>
<td>Third Up (Bad View)</td>
<td>$147.00</td>
<td>$1,710.00</td>
</tr>
<tr>
<td>Third Up (Good View)</td>
<td>$196.00</td>
<td>$3,319.00</td>
</tr>
<tr>
<td>Second Up (Bad View)</td>
<td>$245.00</td>
<td>$1,630.00</td>
</tr>
<tr>
<td>Second Up (Good View)</td>
<td>$294.00</td>
<td>$3,150.00</td>
</tr>
<tr>
<td>Immediate Section (Bad View)</td>
<td>$343.00</td>
<td>$2,032.00</td>
</tr>
<tr>
<td>Immediate Section (Good View)</td>
<td>$395.00</td>
<td>$3,148.00</td>
</tr>
<tr>
<td>Pit Section (Far View)</td>
<td>$435.00</td>
<td>$2,790.00</td>
</tr>
<tr>
<td>Pit Section (Best View)</td>
<td>$499.00</td>
<td>$3,395.00</td>
</tr>
</tbody>
</table>

Figure 4: Table F

? Basic packages would include tickets in the farthest sections (both views)
? Standard packages would include tickets in the Second Up sections (both views) and Third Up sections (both views)
? Premium packages would include tickets in the Immediate Sections (both views) and Pit Sections (all views)

Figure 5: Table F


Staff () ‘How Much Do Hotels Cost in the USA? Hotel Prices for the USA’. https://www.budgetyourtrip.com/hotels/united-states-of-america-US


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