five critical areas impacting unit-level profitability: a study on execution

SYNOPSIS

Research with more than twenty restaurant chains, both full and limited service, defined five areas where most chains are missing significant opportunities to improve their unit economics. This study identifies potential incremental profits from enhanced revenues, higher labor productivity and reduced capital costs that are common in the industry.

With increasing pressure on profit margins, WD Partners conducted a research study of 21 established limited and full-service restaurant chains to identify areas that were hampering profitability. This report identifies the five most common areas:

- I. Service capacity
- II. Process improvement
- III. Labor deployment
- IV. Equipment and space
- V. Unit management productivity

I. SERVICE CAPACITY

FULL SERVICE

An issue found in all of the full-service concepts studied, was an imbalance in the "seat to table" ratio and this imbalance's subsequent negative impact on the efficiency of the dining room. This means that based on the average party size, a restaurant could have all tables occupied during a peak period while seats are only partially utilized. The correct relationship between table configuration and peak-period party size distribution allows units to maximize store revenue while also reducing customer wait times by optimizing the use of seats.

In all the concepts studied, the imbalance was an under-representation of 2-top tables and an excess of 4-top tables, relative to customer mix. As shown in Figure 1, while an average of 54% of the parties were two people, the restaurants only had an average of 11% of their table inventory in 2-tops. Conversely, while only 33% of the parties were of four people, the average dining room had 75% of the tables in 4-tops.



While this mismatch occurred in all the concepts studied, the degree of mismatch ranged from a low of 30% in CDR-Mexican to a high of 56% in CDR-BBQ. (Figure 2)



This over-allocation of 4-tops is likely the result of several factors:

- · A desire to add "flexibility" to the dining area, i.e., a party of two can sit at a 4-top
- · Concerns about accommodating the small percentage of parties of two that prefer a 4-top
- A misdirected focus on the number of seats in the dining room
- · Lack of empirical information about the correct table configuration

The lack of empirical information increases operators' hesitation to correctly configure the dining room. Furthermore, planning for the correct seat-to-table ratio requires more information than just the overall distribution of party size. Some factors to consider include:

- · Distribution of arrival times by party size
- Peak period table turns
- Dining room configuration and flow patterns with the additional tables, including re-balancing and placement of side stands/workstations
- · Using flexible tables that can be reconfigured as necessary, i.e., not rounds or booths
- Table package, i.e., size and amount of tableware, service styles, table-top marketing and related table space issues

While correct table configuration allows an existing restaurant to increase the throughput capacity (thus, revenues) during peak periods by maximizing the use of available seating space, it may also allow future

A concern that is sometimes raised is guests' preference for a larger table. While there will be a small percentage of party-of-two guests that do prefer to sit at a 4-top table, they will usually make their preference known. However, the reduced waiting times during peak periods (due to the ability to accommodate more parties at any one time) is likely to enhance overall guest satisfaction.

Retrofitting an existing average-sized CDR dining room — increasing the number of 2-tops and removing some 4-tops — can typically add a net gain of 8 to 15 tables. Depending on the number of peak periods experienced by the restaurant, the financial impact can be very compelling, as shown below.

Potential annual impact per unit	Conservative	Moderate
Additional tables gained	9	12
Peak periods per week	2	4
Turns per peak period	2	2.5
Check average per person	\$15	\$15
Flow-through of sales	55%	55%
Incremental revenues to unit-level income	\$56,000	\$187,000
Incremental unit income	\$31,000	\$103,000

The projection in this example can easily be adjusted for particular unit circumstances. The flow-through of incremental sales of 55% to unit-level income reflects the operating leverage of adding volume to an existing operation. It assumes there are no franchise or franchise related fees incurred. Even at the modest assumptions level, the unit economics are powerful, with every 33 units creating an additional million dollars in unit level net income.

Any queue longer than 30 minutes is an unmet business opportunity. Of course, this projection assumes an actual increase in traffic. However, this is a relatively safe assumption if the unit experiences any sort of material wait times during peak periods. Customers often will decide on an alternative dining choice as wait times begin to lengthen. If a unit has wait times approaching or exceeding 30 minutes, there is an excellent chance that potential sales are being lost due to table capacity. The amount of lost potential sales increase as wait times increase beyond 30 minutes.

When a unit gains a reputation for long wait times during peak periods, it is more difficult to gauge lost revenue, as a percentage of potential customers no longer even attempt to utilize the restaurant. A general rule of thumb is that any queue where the wait is longer than 30 minutes is an unmet business opportunity.

LIMITED SERVICE

In limited service concepts, the service capacity issue that had the greatest impact is enhancing the speed of service (SOS) of the drive-thru process. Quick-service brands have made considerable headway over the last several years utilizing various service elements to enhance drive-thru SOS, such as:

- Multiple windows (cashier and pick-up)
- Pre-order boards
- Order verification screens
- "One-behind, on-the-fly" ordering (where items are sent to the "make stations" when the next item is being ordered and before the order is completed)

Even with these, and other enhancements such as combo meals, there is still opportunity to further improve drive-thru SOS. Just how much potential improvement there is in this area was something on a surprise to us, since the industry has already dedicated considerable energy and focus on SOS for drive-thru. In fact, unit managers have given so much attention to drive-thrus that counter SOS sometimes suffers from under-staffing for walk-in customers.

Drive-thru service times can be looked at as the sum of four categories of activity:

- Order Queue Time the wait time in line before the customer gets to the order board
- Order Time the time a customer is at the order board
- Window Queue Time the wait time between ordering and getting to the pick-up window
- Window Time the amount of time spent at the pick-up window

Window time is the largest operator-controllable opportunity to improve SOS. Order time, in contrast, is more controllable by the customer than the operator. However, order time can be positively influenced by the operator.

Unit managers have given so much attention to drive-thrus that counter SOS sometimes suffers. Excessive window time also lengthens window queue time. Not surprisingly, as queue times increase, the corresponding order or window function time increases. Our operations engineers have found that a 45-second window time is a reasonably achievable benchmark. However, as shown in Figure 3, it is not achieved by the seven studied concepts that had a high percentage of drive-thru volumes. Service times for meal-based concepts ranged from just under 6:30 minutes for a QSR chicken concept, to 3:53 minutes for a QSR sandwich concept.

Furthermore, six of the seven studied concepts had total service times in excess of a 3:13 minute benchmark. This benchmark was developed by taking the average of the top 25 concepts, as reported by *QSR Magazine* in their 2005 study of the best drive-thru service times. The only studied concept that scored better than the benchmark time was a non-meal specialty concept that had a drive-thru time of just less than 3 minutes. Not surprisingly, as shown in Figure 3, the corresponding order or window time increases the queue time increases.



Several concept-specific factors influence drive-thru SOS, including the product preparation process, order assembly requirements, complexity of menu and guest customization options, and transaction size. Accordingly, the observations and recommendations need to be considered in light of these and other mitigating factors.

With the above caveats in mind, our research identified several common issues that hamper drive-thru productivity. They include:

- · Not separating order taking from cashiering during peak periods
- · Communication slowdowns and errors caused by inadequate or insufficient equipment
- Language issues related to non-native English speaking crew members, which can be exasperated by poor quality sound transmission
- Assembly-area design is not sufficient. Insufficient landing zone for next order(s)
- Food or beverage not ready

Not only do these issues slow the ordering process, they can also impact order accuracy, and reduce the potential for "up selling."

The first three factors in the list (separating order taking from cashiering and communications issues) may increasingly be addressed by remote order centers. Remote order centers, where a guest communicates directly with a person in a call center and their order is then transmitted back to the unit, may be an increasingly common way to address some of these productivity issues. Several concepts are already testing call centers, with potential benefits including:

- Improved speed of ordering because the call center employee is focused on the order taking process, and not required to do other tasks
- Better communications due to required equipment investments. There is typically a need (and a cost) to install new equipment for remote ordering
- · More effective suggestive selling, increasing the average transaction size

The fifth and sixth items in the list address inefficient design regarding work flow and workstation design as related to the drive-thru process. As menus change, including Limited Time Offers (LTOs), the food assembly area tends to become less and less efficient, requiring more effort and time for crew members to correctly assemble an order. Some concepts may not even have a convenient and efficient landing zone for the drive-thru. In addition, it is likely that the equipment is no longer the most appropriate selection and in the correct placement, and excessive walking time will result in further reducing crew productivity, increasing labor costs and order times.

As will be shown in the next section of this report, workstation design and efficiency also tend to degrade over time, leading to slower drive-thru speeds, lower order accuracy, and lower crew productivity.

Improving the SOS and order accuracy increases both customer satisfaction scores, as well as enhances unit economics. Similar to the earlier table and party distribution example (Figure 1), slower drive-thru lines affect the total revenue generated by a unit during a peak period as customers tend to select other QSR options when they see a long drive-thru line, or avoid a unit that has a reputation for slow SOS.

To illustrate the potential unit-level impact, the following assumptions were developed. (See Table on Page 7.) These represent reasonable industry standards. These assumptions can be adjusted to reflect a particular concept's performance in order to arrive at a more brand specific estimate of potential revenue gains.

Potential annual impact per unit	Conservative	Moderate
Improvement in window time (seconds)	30	45
Additional cars (transactions) per hour	20	30
Peak periods per week	5	5
Peak period duration	75 minutes	75 minutes
Check average per person	\$4.75	\$4.75
Persons per check	1.25	1.25
Incremental flow-through to unit income	45%	45%
Incremental annual unit sales	\$37,000	\$58,000
Incremental unit income	\$17,000	\$26,000

Note that the 30-second improvement in window time for our convervative estimate still keeps all but one of the studied LSR drive-thru times at or above the target window time of 45 seconds, which should be a reasonable goal for most QSR concepts. Also note that the incremental flow through to unit income is 45% (instead of 55% used in FSR) to reflect approximately 10 percentage points for typical franchise fees, plus the marketing and advertising fund requirements.

II. PROCESS IMPROVEMENT

Over time, kitchen and workstation layouts become less and less efficient. In many cases, the impact of this deterioration process is not noticed, as it usually occurs piecemeal. Our research revealed the potential for material improvements existing in a majority of the operations studied, which was particularly true of the full service concepts. This decline in productivity results from three major factors, including:

· Initial design shortcomings

In many cases, work flow within a work station, as well as the work flow, alignment and flow between work stations, is not given the level of thought and planning needed to make best use of available equipment, technology, sourcing and labor. This may result in higher labor costs and order assembly time, as well as increased kitchen crew fatigue.

Menu changes

Changes in menu offerings are likely the greatest cause of declines in workstation efficiency. As menus are changed — additions, deletions, different combinations, and LTOs are introduced — the existing workstation and kitchen design, even if it was correctly engineered at the outset, becomes more and more compromised.

Inefficient process requirements

In a number of examples studied, the number of steps (and time) required to produce individual items could be reduced by re-engineering how it is prepared. This can, in turn, aid overall SOS as the item slows completion of the order assembly process.

These evolutionary changes create a less efficient production processes due to several factors:

- Adjacency issues workstations not designed for high levels of labor productivity, requiring more effort and time to produce an item. Adjacency issues may be reflected in excessive, non-productive "walking time" of employees. This increases labor costs, as well as slows the order assembly process.
- Incorrect equipment can hinder both labor productivity and process. In many cases this may be the result of malfunctioning or inaccurate equipment selection, which might have been the correct selection when the kitchen originally was designed.
- Improper ergonomics many workstations are not engineered in sufficient detail to maximize the benefits of correct ergonomics. As a result, fatigue becomes a factor in both SOS and labor productivity.
- Dynamic imbalance when several unpredictable things happen at the same time and severely disrupt normal processes.
- Throughput capacity within a workstation capacity for each component must be properly planned for, including supplies, stock space and equipment.

The following examples illustrate the impact of engineering issues. For menu changes, a casual dining chain offered guests new options for side dishes to accompany their entrée. No new side dishes were added; only the way customers could combine side dishes with entrees was changed. The result was a noticeable and dramatic imbalance in the order assembly process, with significant increases in assembly times at both the workstation level and the order assembly (expediter) station as noted in Figure 4 on the right.



The impact of incorrect workstation design, caused by inefficient engineering of the workflow process can be illustrated by the following before and after graphics. Figure 5 shows the work process for a high volume, signature entrée menu item for a Limited Service chain. As seen in the diagram, the 14-step assembly process required the crew member to waste time and energy, working inefficiently across the workstation.



Figure 6 shows a properly engineered workstation, with correct equipment adjacencies, materially improved both time and productivity.



As the final example, a signature beverage offering for a casual dining chain was slowing order assembly. Re-engineering the process focused on reducing the number of steps and simplifying the process, pre-preparation steps that could be done before peak meal periods, grouping critical adjacencies, and employing the correct equipment using the proper technology.

The results, shown in Figure 7, provided a material improvement in productivity, including a significant improvement in the percentage of times the product could be produced within the targeted window of under 90 seconds, which was necessary to avoid slowing the order assembly process.



A kitchen with both correctly designed workstations, as well as the correct flow between workstations, can have a significant impact on labor efficiency. In one full-service casual dining operation, the increase in productivity (percent active) increased from 48% to 71% of total time. (Figures 8) All of this gain came from reducing time spent on unnecessary walking.



III. LABOR DEPLOYMENT

The third area where our research often found the potential for profit improvement was in how existing labor was deployed to various tasks throughout the day.

While most restaurants use some form of labor scheduling programs with established guidelines, these guidelines typically are not predicated on time-motion studies and do not reflect how actual employee time is broken down between productive and non-productive elements for specific tasks in any given time frame.

Major QSR chains are more likely than full-service restaurants to have conducted this kind of research, largely due to their more limited menu and specialized kitchens. However, the potential benefits derived from this process are significant for full-service concepts, where the back of the house labor requirements are more demanding and costly.

This drop in productivity can be masked if the evaluation is done just on "active" and "idle" time. As shown below, in Figure 9, both LSR and FSR appear to have similar levels of productivity.



Figure 9

However, when "active" functions are subdivided into either "active" or "walking" it is easier to see where productivity begins to suffer, as shown in charts reflecting the same data set in Figure 10 below.



Figure 10

Even allowing for acceptable (and desirable) idle time, a 20% or more gain in productivity may be possible. This is a rather startling finding.

Other productivity enhancements can likely come from correct slide deployment of personnel during different periods of the day. Slide deployment is the ability to "staff up" or "staff down" a kitchen production process by adding more people to do fewer tasks during peak periods and fewer employees doing more tasks in slow periods. Slide deployment allows managers to re-direct crew toward guest-service tasks during peak periods, and preparation work, cleaning, etc. during slower periods.

LSR concepts have been noted for their ability to efficiently use slide deployment. However, our research found that even LSR could make enhancements in how people are deployed. The potential for improved slide deployment in LSR can be seen in Figure 11, where 20% to 40% of the available labor during high volume periods were engaged in tasks not related to customer service.



Figure 11

Efficient use of slide deployment might be hampered by an excess ratio of long to short shifts, workstation design that does not have the capacity to be stocked for a full peak period, and inefficient pre-peak production and preparation.

A well engineered and executed program for both processes and labor deployment will have an impact on financial performance. In our experience, the potential savings can easily be 1 to 3 percentage points (100 to 300 basis points) of cost reduction. In most cases, 50% to 75% of this potential savings can be realized through a reasonable retrofitted implementation program.

IV. EQUIPMENT AND SPACE

The third area where our research often found the potential for profit improvement was in how existing labor was deployed to various tasks throughout the day.

EQUIPMENT RELATED ISSUES

As noted earlier in this report, kitchen efficiency peaks when it is first designed. Effectiveness of the workstation design — and the equipment used — degrades as changes are made over time to the menu offer, ingredients, or processes employed.

Our research showed three major areas where equipment-related issues were impacting profitability:

- incorrect selection of equipment
- incorrect placement of equipment
- specifying excess equipment

The incorrect selection of equipment can impact a unit's profitability in several ways. Equipment often is not scaled to handle the volumes required during peak production times. For example, a grill or broiler that "lays down" during peak periods, which leads to longer SOS times, or worse, the potential of undercooked foods that could lead to a food-borne disease incident. In addition, equipment that is of insufficient quality will lead to on-going maintenance and or replacement issues.

Correct placement of equipment is a critical element in process employment, covered earlier in this report. Much of the inefficiency noted in the workstation design (Figure 5) can be attributed to improper placement of equipment.

Excess equipment can also be a material factor in reducing unit economics in terms of operating costs, as well as capital costs. In many cases, there is a design temptation to either add more equipment to cover future contingencies, or "over-design" the kitchen due to overly optimistic volume estimates. There certainly is a need to have some flexibility incorporated into a kitchen to compensate for anticipated menu changes. However, it is all too easy to over-compensate for this factor, paying too much for initial development costs, on-going operational costs (including energy and maintenance), and lowered productivity as workstations, and the kitchen itself, increase in size.

Operators tend to over-estimate the anticipated sales volume of a new location. While many management teams consider lower actual volumes from those projected as a "mistake," many do not react the same way when the opposite occurs, and the development planning process does not accurately project high volume units. In reality, a notable difference between projected and actual volumes in either direction creates the opportunity to degrade a store's unit economics.

Finally, the cost of excess equipment is frequently underestimated, making it easier to accept an additional piece of equipment. However, consider the actual 5-year cost of just one unneeded 36" grill in a kitchen:

Cost for one 36" grill over five years	
Construction	\$2,400
Equipment	\$3,600
Utilities	\$1,400/yr
Cleaning (labor)	\$850/yr
Service costs	\$150/yr
Total 5 year cost =	\$18,250

In addition, this cost estimate does not include the likely reduction in employee productivity (increased walking time, for example) that would be associated with larger than necessary workstations.

SPACE RELATED ISSUES

Virtually all of the concepts studied in our research had some degree of excessive space in both the front and the back of the house. The excess space was not always in one obvious area, but sometimes in small pockets of inefficiently used space throughout the building. Removing this excess space can have a dramatic impact on development costs, which, in turn, improves the return on investment (ROI) of the concept. Excessive space also impacts the size of the site required for a potential new unit, and thus may cause a missed development opportunity.

Excessive space also impacts on-going operating costs in a number of categories, including:

- labor productivity
- energy costs
- direct operating costs
- rent and/or related charges such as common area maintenance, real estate taxes, etc.

All of the concepts studied had excessive space in both the front and the back of the house. To illustrate the potential impact of excessive space, we selected six examples (three full service and three limited service). Two were more material, and four were more representative of potential space savings.

The potential reduction in space comes from proper engineering and sizing, with no change in capacity from the existing unit (kitchen, seating, and for LSR, drive-thru). Excessive space ranged from 200 to 1,200 square feet, as seen below.

Potential reduction in space from proper facilities engineering		
FSR concepts	Percent improvement	
7,200 to 6,000 SF	(16%)	
8,100 to 7,250 SF	(10%)	
7,400 to 6,750 SF	(9%)	
LSR concepts		
2,600 to 2,100 SF	(19%)	
1,850 to 1,650 SF	(10%)	
3,575 to 3,275 SF	(8%)	

The potential savings in development costs for removing excess and non-productive space is significant. Assuming construction costs of \$180/SF for FSR concepts and \$150/SF for LSR concepts (with standard finish and excluding any changes in equipment, fixtures and HVAC), yields the following savings per unit:

Potential development cost savings for properly engineered facility		
FSR concepts	Development cost saved per unit	
7,200 to 6,000 SF	\$ 216,000	
8,100 to 7,250 SF	\$ 153,000	
7,400 to 6,750 SF	\$ 117,000	
LSR concepts		
2,600 to 2,100 SF	\$ 75,000	
1,850 to 1,650 SF	\$ 30,000	
3,575 to 3,275 SF	\$ 45,000	

V. UNIT MANAGEMENT PRODUCTIVITY

The fifth and final area where restaurants commonly "leave money on the table" is in how unit management is deployed.

Most unit management teams (general manager and assistant managers) are typically well versed in the operational aspects of their units. Accordingly, this section need not address mismanagement that is a result of poor technical training or inattention to operational managerial duties.

However, management teams may be able to allocate unit-level managers' time to achieve better overall economic results. Our research found that managers spent substantial blocks of time doing non-managerial tasks, and in addition, spent insufficient time addressing issues that would contribute to increased unit profitability.

To illustrate these factors, our research included a time allocation study, comprised of representative FSR and LSR concepts. As noted below in Figure 12, 70% of FSR unit management time, and only 53% of LSR management time was focused on managerial tasks, including personal/idle time. How the remaining time is allocated provides insights to where improvements in productivity can be made.



Large blocks of management team time was allocated to non-managerial, or crew, tasks as noted in Figure 13 below. While some flex time in this category is inevitable and necessary, the fact remains that it is often used in excess. The net result is having higher paid, salaried personnel doing tasks that should be done at lower wage rates.



Most problematic is that in FSR there was not measurable time allocated to sales building, and in LSR, only 1% of the time allocated to sales building activity. Overall, unit managers do not engage in developing new clients and building customer relations for any material amount of time. Yet such activities have a proven record of being able to build sales in a unit.

The impact of these efforts on incremental sales and unit profits can be very significant, if even a modestly successful local marketing and customer relations program was instituted as shown in the following table.

Impact of local sales building effort		
Incremental weekly sales	\$750	\$1,500
Incremental annual sales	\$39,000	\$78,000
Contribution margin	50%	50%
Annual additional profits	\$19,500	\$39,000

The incremental sales and profits used in this example are by no means excessive. One multi-unit QSR chicken operator, for example, had an a weekly volume increase of over \$3,000 in average unit sales per unit resulting from such a program, materially impacting unit profitability.

CONCLUSION

WD Partners' research has identified five critical areas where restaurant chains are commonly "leaving money on the table." The benefit from properly attending to four of the five areas could be implemented in both existing and new units. The space saving factor would be available only in new units.

The potential for improving unit economics could be substantial.

What can it mean per unit		
Revenues	Range of impact	
FSR capacity	\$60,000 to \$200,000	
LSR drive-thru	\$40,000 to \$60,000	
LSM	\$40,000 to \$80,000	
Cost reduction		
Labor (points)	.75 to 1.5	
Capital costs		
FSR	\$120,000 to \$220,000	
LSR	\$30,000 to \$75,000	

Of course, the potential will vary from concept to concept and even unit to unit within a concept. Nonetheless, the 21 concepts selected for this research were established chains, with sufficient number of units to have achieved industry norms for operation.

These findings beg the question, what savings can be identified and captured in your operations?

SCOPE OF RESEARCH

This project is focused on issues related to inefficient design and operations reflecting either insufficient or outdated engineering of both the front of the house and the back of the house production areas.

Research from more than twenty different restaurant chains was included in this study, representing both Full and Limited Service concepts, as well as a broad spectrum of segments and size.

Full Service Restaurants	Limited Service Restaurants
(CDR and MSR)	(QSR and Fast Casual)
Casual Dining – Varied Menu (3)	QSR – Hamburger (2)
Casual Dining – Mexican	QSR – Sandwich (2)
Casual Dining – Italian	QSR – Sandwich (2)
Casual Dining – Steak	QSR – Chicken (4)
Casual Dining – Barbecue	QSR – Specialty (2)
Mid-scale Dining – Family	Fast Casual (3)

Full Service chains ranged from under 50 to over 500 units in size, while Limited Service chains ranged from under 100 to over 4,000 units. We purposefully selected chains that had sufficient time to refine their operations, avoiding operational issues typically associated with newer emerging concepts.

This data was accumulated over an appropriately representative number of days on-site at each concept. To preserve and protect the confidentiality of this information, no specific brand names are identified. The data provided in this study is a combination of observed averages of various sub-sets of the studied groups.

By necessity, both examples and suggested enhancements have been simplified from the needs of both analyzing issues and incorporating changes in any one specific concept. Changes in operations, layout, equipment and processes have a ripple effect on other aspects of a concept that need to be fully understood and tested before implemented. Avoiding this analysis can negate any positive impact on the unit's performance.

WD PARTNERS' THOUGHT LEADERSHIP SERIES

WD Partners intends to provide the industry with periodic research papers, at no charge, as well as shorter "white papers" on various topics. Our goal is to provide actionable and profit generating insights to assist executives who are actively engaged in improving their brand and the industry.

The first research paper, produced in 2005 and entitled What Can QSR and Quick Casual Learn from Each Other, was widely embraced by limited service chains and is still available upon request.

WD Partners is a design and development firm that has been serving the chain restaurant industry for nearly 40 years, providing our clients with Integrated Prototype Services and Integrated Rollout Services.

Because of the breadth and depth of our interdisciplinary expertise, we can provide operators with business-right and brand-right concepts, which are as effective for new units as they are for remodeling existing units.



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