

Restaurant Plate Waste

Relationship between Menu Items, Product Engineering and Profit

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“Food waste isn’t considered problematic because, for the most part, it isn’t considered at all.”

Bloom - 2010

- Plate waste an important component of restaurant food waste
- No opportunity for rescue
- Costs us twice
- May also be a reflection of unhappy customer
- Has received very little attention

Plate Waste

- Estimates have ranged from 5-13%
 - Engstrom and Kanyama (2004), Collison and Colwell (1986)
- Some suggestion that increasing portion size contributes
 - Almost 40% increase in plate size between 1960-2006
 - Wansink 2007
 - “consumer plate loss may be on the rise at restaurants due . . . upsizing of portions.”
 - Kantor et al 1997

What is being wasted?

- Little attention to what has contributed to the waste
 - Hospitals and cafeterias
- Reduction strategies depend on understanding what is contributing
 - Easier said than done – particularly in a commercial restaurant.

So what did we do?

- Collected all plate waste from lunch service at PJ's
- Used sales of individual menu items daily to estimate contribution of each item to total waste
 - Linear programming model
 - Easy to apply – used Excel
 - Real tool that can be implemented in a commercial restaurant

So what did we find?

- Average daily waste was 11.3%
 - Daily minimum was 5.0 %
 - Daily maximum was 18.8%
- High degree of variability
 - Not every plate
 - Depended to a degree on the special

So what did we find?

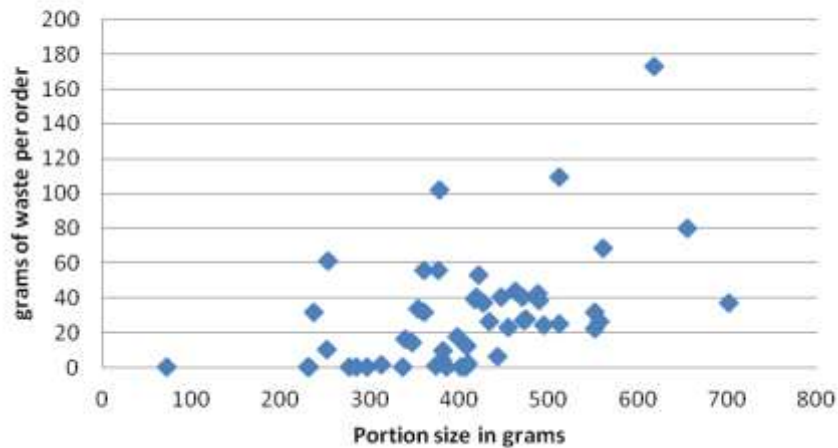
Waste by Standard Menu Item			
Menu Item	Standard Weight (gms)	Average waste (gms)	% waste
Fish and Chips	702	36.9	5.3
Clubhouse with Fries	512	109.7	21.4
Pulled Pork with Fries	618	173	28.0
Trout and Beet Salad	297	0	0
Pesto Primavera	361	56.0	15.5
Side of Fries	252	61.4	24.4
Spinach Salad	73	0	0

So what did we find?

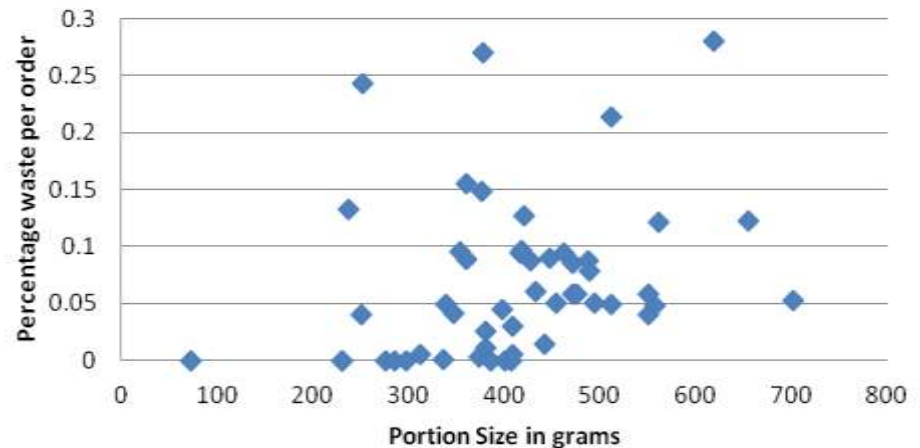


So what did we find?

Waste by Portion Size



Percentage Waste by Portion Size



So what did we find?

- Plates with lots of carbohydrates generated more waste
- Link to portion size was there but not strong
- Garnishes often led to waste
- Some outliers in the specials

So what can you do?

- Think about plate composition
 - When fries were made optional waste was reduced BUT so was revenue
 - TGIFridays approach
 - Option to downsize?
 - Think about Margin
 - Other sides?
 - Still likely cost issues
 - What are implications for demand?
- Offer choice on portion size
 - Revenue management implications – sustain the margin
- Learn!
 - Garnishes
 - Specials

Wrapping Up

- To reduce plate waste we need to understand what's causing it
 - We have a practical approach to doing that
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- Thinking about margin rather than revenue will also be key
- We have a significant opportunity for improvement