

***Lean Six Sigma Green Belt  
Final Project Report-Out***

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***Technical Call Center Optimization***

Duration of Project:

June 11, 2004 to October 1, 2004

# ***Team Membership***

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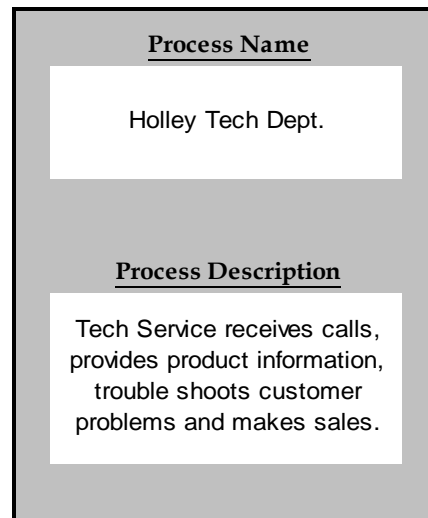
- **Sales and Marketing**
- **Technical Services**
- **Information Technology**

# Define ... the process

## IPO Input Process Output Diagram

INPUTS → PROCESS → OUTPUTS

Incoming calls from consumer  
Incoming emails from consumer  
Tech personnel attributes (knowledge)  
Data from BPCS System  
Order-Entry  
Motorsports/Events  
Product Information - Engin.  
Shipping Direct Sales  
Organization of Tech Dept.



Abandonment Rate - Calls  
Abandonment Rate - Email  
Reduced Warranty  
Direct Sales Dollars  
Voice of Customer - Satisfaction

# ***Define ... the business case***

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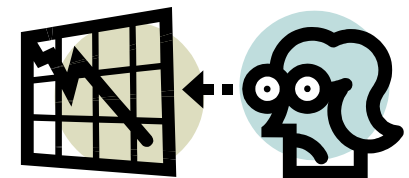
- **Problem Statement (description)**
  - Tech Service has an unacceptably high percentage rate of abandoned calls of 25% resulting in unsatisfied customers.
  
- **Project Goals**
  - The project goal is to have a less than 7% drop rate and increase Tech sales to \$250K.
  - The primary metrics are call drop rate and Tech sales.

# Measure ... the current process performance

- Call Study Baseline

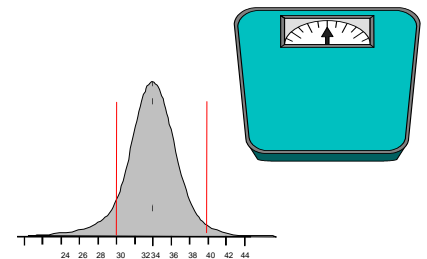
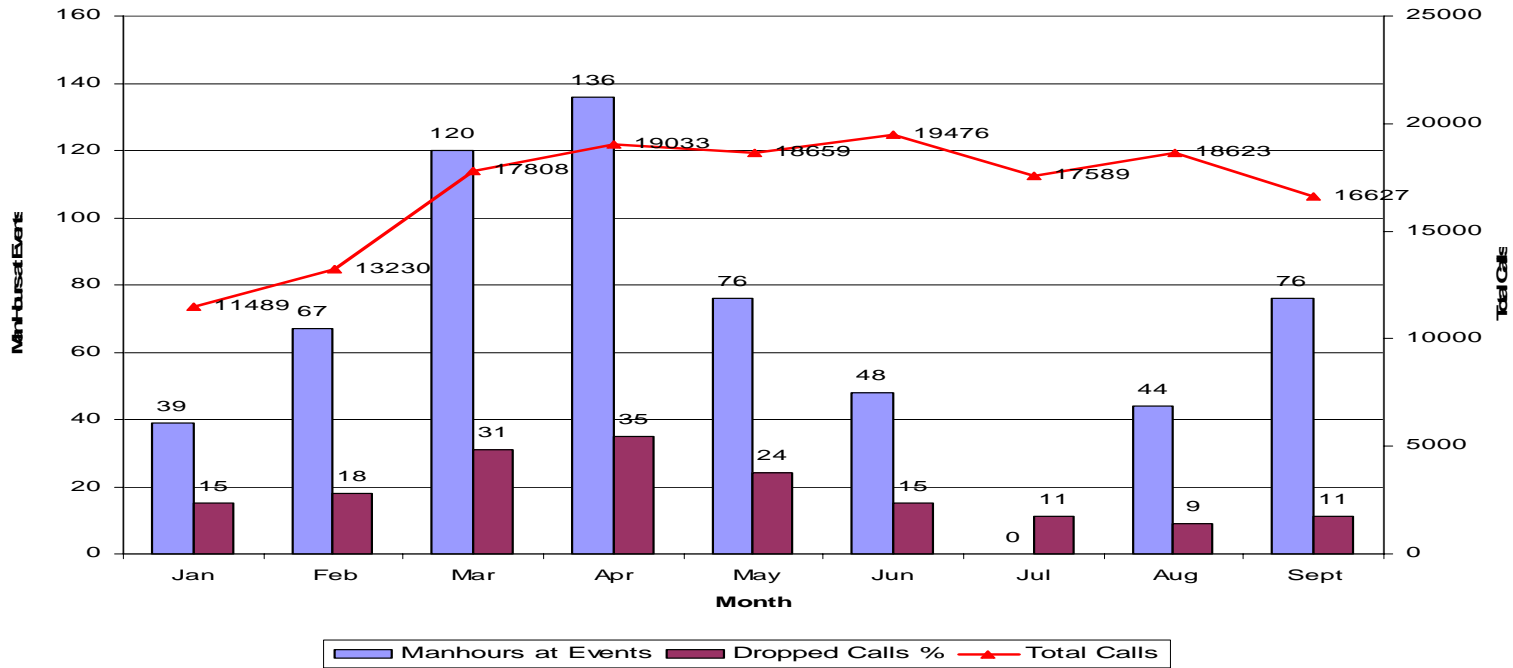
Tech Call Totals

	Total 2002	Total 2003	Jan. 2004	Feb. 2004	Mar. 2004	Apr. 2004	May 2004
Total Calls Received	157,262	142,601	11,489	13,230	17,808	19,033	18,659
Total Calls Answered	114,246	114,319	9,808	10,787	12,285	12,360	14,112
Abandonment Rate %	27%	20%	15%	18%	31%	35%	24%



# Measure ... the current process performance

## Event Attendance Study



# Measure ... the current process performance

## Lunch Shift/Staff Study



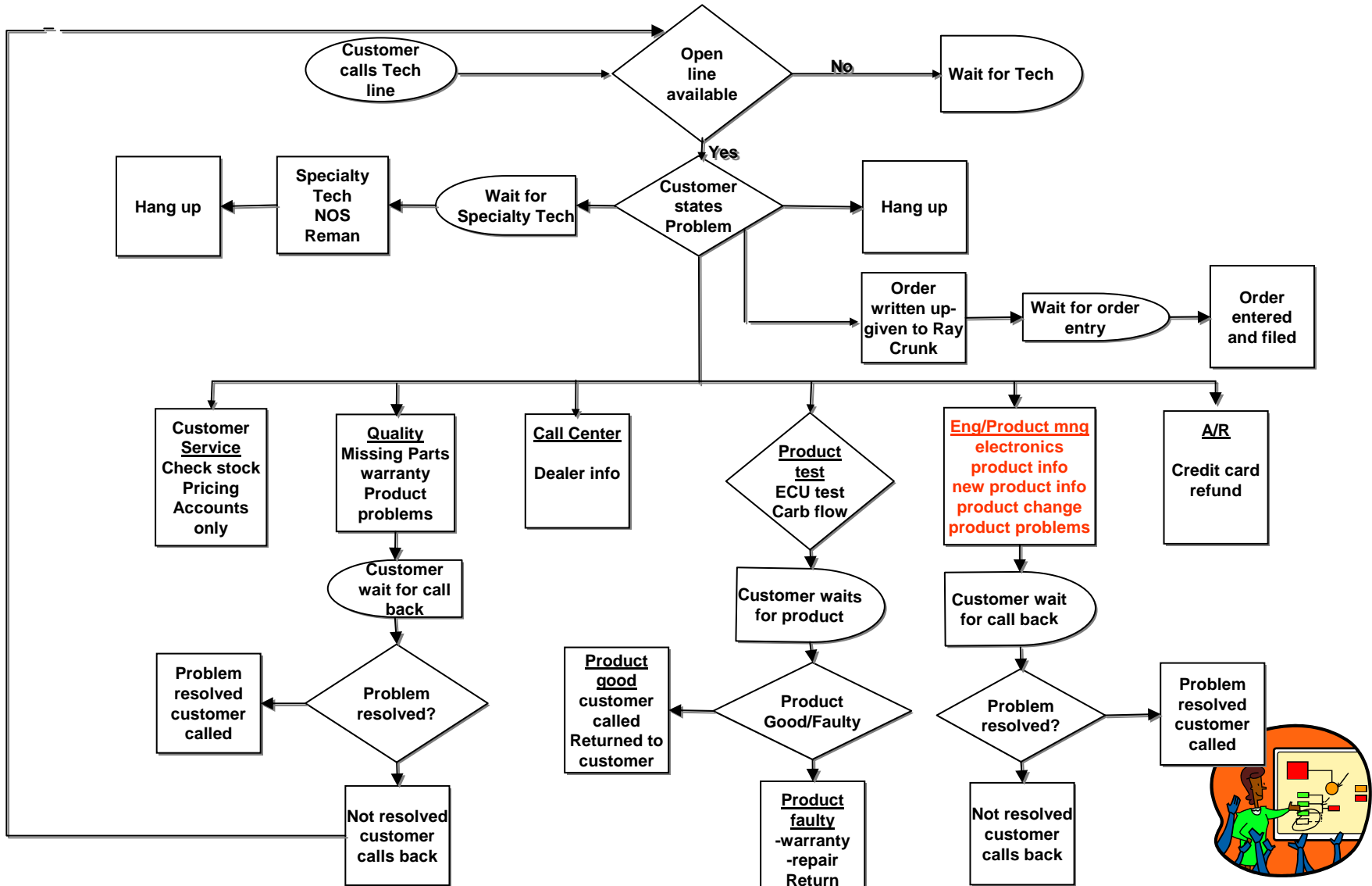
Lunch period lost call comparison - 2 weeks before and 2 weeks after 3 shift implementation

	Monday	Tuesday	Wednesday	Thursday	Friday	Monday	Tuesday	Wednesday	Thursday	Friday
	7/26/04	7/27/04	7/28/04	7/29/04	7/30/04	8/2/04	8/3/04	8/4/04	8/5/04	8/6/04
Lost calls-2 shift	13	21	11	9	14	13	5	4	4	10
	8/9/04	8/10/04	8/11/04	8/12/04	8/13/04	8/16/04	8/17/04	8/18/04	8/19/04	8/20/04
Lost calls-3 shift	8	3	11	10	2	7	8	4	2	6
	8/23/04	8/24/04	8/25/04	8/26/04	8/27/04	8/30/04	8/31/04	9/1/04	9/2/04	9/3/04
Lost calls-2 shift	14	17	10	12	15	20	15	7	2	6

Total calls lost previous	104
Total calls lost 3 shifts	61
Total calls lost after	118

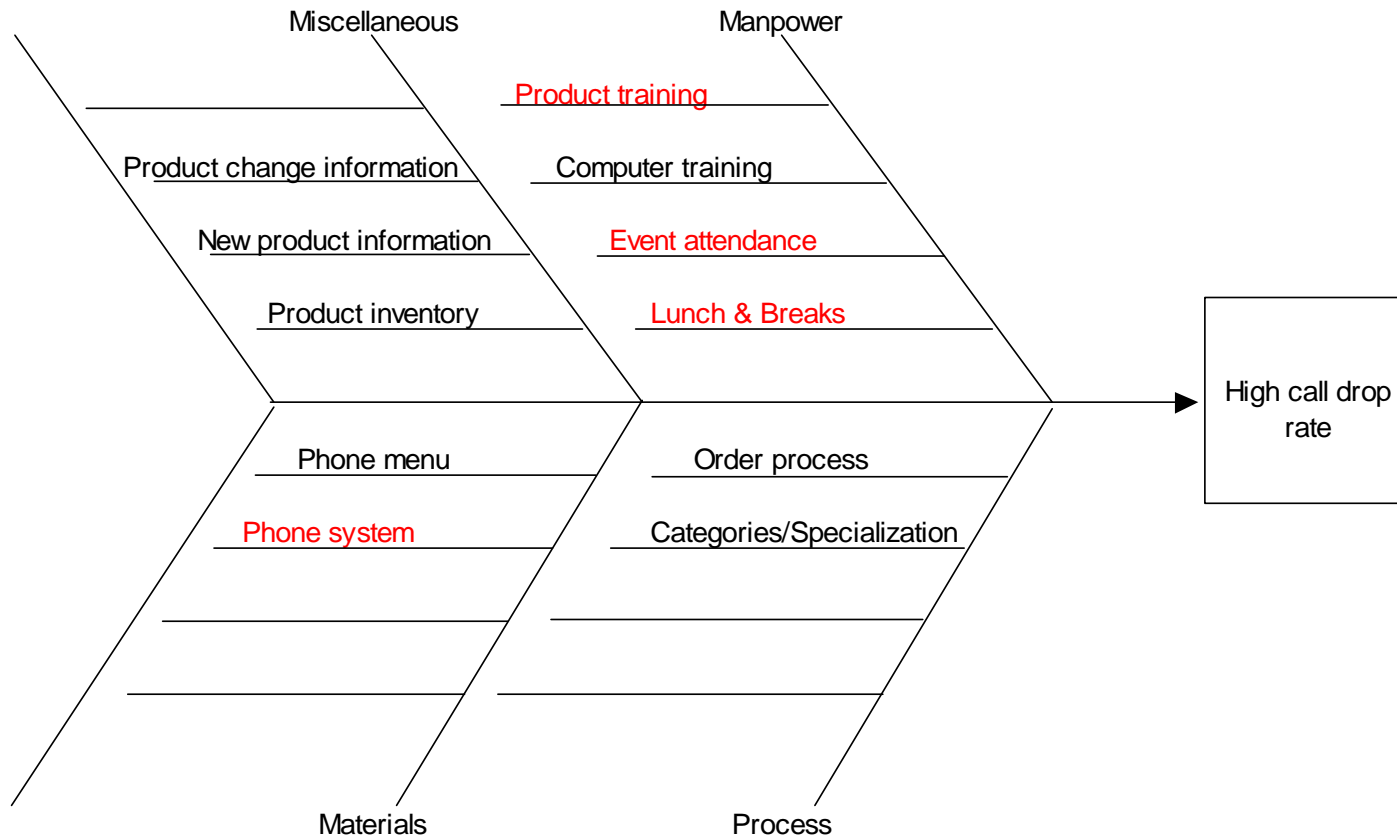
**From the lunch analysis it was determined a 3 lunch split provided almost 50% less drop rate than the 2 lunch split.**

# Measure ... the current process performance



# Analyze ... the root causes of poor performance

## Fishbone - Causes of Waste



# Analyze ... the root causes of poor performance

## Quality Function Deployment

WHAT		HOWS					
		Tech Training	Parts available	Streamline organiza	More Techs at peak	Consistent PO's for	SOP/Inter-Dept. con
Calls answered timely	5	9		9	9		
Professional manner	3	9					5
Answers precise and to the point	3	9		3		5	
Call backs timely	5			9	9		9
Order search - timely & accurate	4	3				9	
Orders shipped on time	5	3	9				
Order parts needed	4		9				
Product problems resolved timely	5						9
Totals		126	81	99	90	41	105

# Improve ... the process

## Identified Tech Service Constraints/Waste with Improvements

Constraint – Tech phones not staffed adequately.

- Eliminate time spent out of the office at events.
- Stagger lunch breaks from 2 shifts to 3 shifts.
- Look at making more staff available between 4 p.m. and 5 p.m.

Constraint – Break down in flow of customer order entry and status check due to inefficient order entry system and lack of computer training.

- Set up all Technicians for order entry.
- Provide BPCS training and support through Customer Service.

Constraint – Inter-Department information flow from customer statement of problem through resolution.

- Worked with Quality and Product Management to develop SOP's and a customer acceptable problem resolution time frame.

Constraint – The lack of an efficient access to product information to Technicians.

- Engineering to place new product and product change information on intranet.
- Provide Tech training to retrieve and convenient placement of product information.

Waste - One Tech person mans the phone Saturday's (at overtime pay) to provide support for CSK warranty program averaging only 2.3 calls per Saturday.

- Eliminated Saturday support due to lack of CSK program utilization.

# Control ... to hold the gains

## Tech Agent Calls / Daily

From 2/14/2005 12:00:00 AM To 2/14/2005 11:59:59 PM

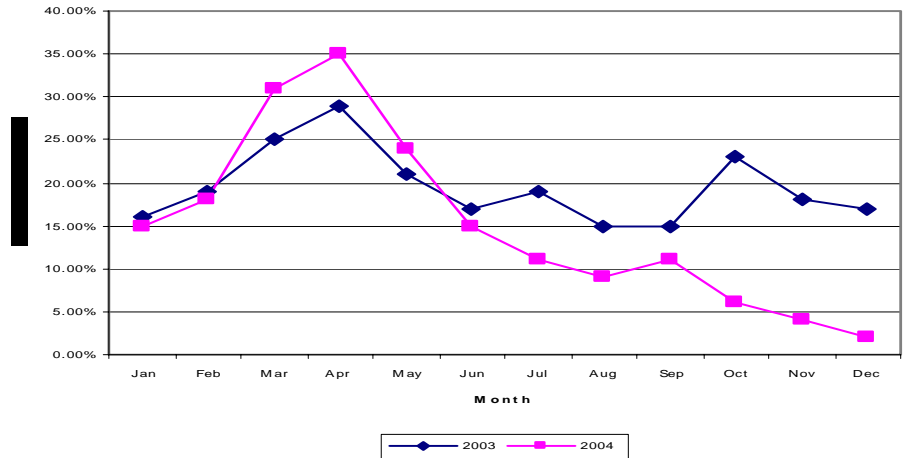
Agent	Description	Calls In	Calls In Ans	Total Talk Time	Avg Talk Time	Longest Wait	Avg Wait (In)	T Calls Aban	% Calls Abandoned
1870	S. WHITESCARV	56	51	02:39:49	00:03:08	00:04:12	00:00:52	2	3.6
1952	W. WARREN	28	28	01:19:18	00:02:49	00:16:22	00:04:00	0	0.0
1955	K. SMITH	85	81	03:34:12	00:02:38	00:13:47	00:04:18	2	2.4
1958	R. RICHTER	102	101	02:57:51	00:01:45	00:13:53	00:04:53	1	1.0
1966	M. WINDERS	53	53	04:19:25	00:04:53	00:11:34	00:03:10	0	0.0
1969	M. KISE	55	55	02:54:56	00:03:10	00:12:41	00:05:39	0	0.0
1971	J. EATON	79	78	02:27:38	00:01:53	00:11:27	00:02:36	1	1.3
1972	E. HATCHER	102	95	03:25:42	00:02:09	00:12:34	00:04:18	1	1.0
1973	J. LEDGER	59	55	01:43:45	00:01:53	00:11:07	00:01:45	2	3.4
1974	C. REID	87	86	02:51:31	00:01:59	00:14:13	00:05:25	1	1.1
1978	L. HULSEY	73	73	02:59:11	00:02:27	00:11:56	00:02:31	0	0.0
<b>Totals</b>		<b>779</b>	<b>756</b>	<b>31:13:18</b>	<b>00:02:28</b>	<b>00:16:22</b>	<b>00:03:44</b>	<b>10</b>	<b>1.3</b>

## Tech Call Summary / December 04

From 1/1/2005 12:00:00 AM To 1/31/2005 11:59:59 PM (Weekdays only)

Agent	Description	Calls In	Calls In Ans	Total Talk Time	Avg Talk Time	Longest Wait (I)	Avg Wait (I)	Calls Abandoned	% Calls Abandoned
1870	S. WHITESCARV	803	772	29:23:14	00:02:17	00:20:49	00:01:05	23	2.9
1871	T. KISE	907	861	31:21:18	00:02:11	00:10:23	00:01:15	21	2.3
1952	W. WARREN	1125	1087	31:09:08	00:01:43	00:10:45	00:01:14	20	1.8
1955	K. SMITH	1143	962	33:38:03	00:02:05	00:09:45	00:01:20	32	2.8
1958	R. RICHTER	1023	999	25:12:28	00:01:30	00:14:51	00:01:26	12	1.2
1966	M. WINDERS	914	894	47:39:35	00:03:11	00:18:21	00:01:10	17	1.9
1969	M. KISE	839	811	30:24:01	00:02:14	00:12:25	00:01:15	14	1.7
1971	J. EATON	939	921	35:59:36	00:02:20	00:38:15	00:02:19	14	1.5
1972	E. HATCHER	1450	1284	29:27:47	00:01:22	00:09:29	00:01:19	37	2.6
1973	J. LEDGER	782	736	23:46:35	00:01:56	00:19:53	00:01:19	22	2.8
1974	C. REID	1004	890	25:16:00	00:01:42	00:12:41	00:01:35	23	2.3
1978	L. HULSEY	1134	1116	39:01:17	00:02:05	00:41:54	00:02:10	15	1.3
<b>Totals</b>		<b>12063</b>	<b>11333</b>	<b>382:19:02</b>	<b>00:02:01</b>	<b>00:41:54</b>	<b>00:01:28</b>	<b>250</b>	<b>2.1</b>

**Monthly meeting to evaluate performance.**  
**Corrective actions to be identified and put into place for drop rate exceeding 4%.**



# *Project Summary Scorecard ... before and after*

<b>metric</b>	<b>before</b>	<b>after</b>	<b>change (%)</b>
<b>Drop Rate</b>	<b>25%</b>	<b>4%</b>	<b>84% reduction</b>
<b>Tech Sales</b>	<b>\$114K</b>	<b>\$205K</b>	<b>79%</b>

# Project Summary

- **Problem**

- Tech Call Center has an unacceptably high rate of abandoned calls of 25% resulting in unsatisfied customers.

- **Baseline and Target Performance**

- Tech Call Center average drop rate for 2003 was 20%. The highest drop rate in 2004 is 35%. The target performance is less than 7% drop rate.

- **Analysis and Solution**

- Our analysis showed a lack of phone coverage during peak times, a lack of SOP's and inadequate phone system caused the high drop rate. Event coverage was cut back for 2004. We went to a 3 split lunch breaks. A new phone system was installed. SOP's were put into place to increase speed of inter-department communications.

- **Results and Business Benefits**

- Tech Call Center has reduced call drop rate from 25% to 4% beginning in September thru present resulting in increased customer satisfaction. 2004 Tech sales totaled \$205K compared to \$114K in 2003.