IT Service Management Metrics Benchmarks: 2013 Update

A Report From The Pink Elephant IT Management Metrics Benchmark Service

Executive Summary

The Pink Elephant IT Management Metrics Benchmark Service collects, analyzes and presents IT management metrics benchmarks. This Incident, Problem and Change Management Metrics Benchmarks update presents an analysis of voluntary survey responses by IT managers across the globe since early 2010. The surveys have thus far been limited to simpler metrics and the processes most broadly practiced. This year's report includes a statistical profile of the survey respondents.

Key points in this analysis:

Incident Management:

The number of Incidents is most influenced by (in order of influence):

1. The size of an IT organization — measured by quantity of IT Full Time Equivalent workers (FTEs) of all kinds – (employees, contractors and direct service providers' workers).

2. The number of users (opportunities to dissatisfy) and the number of years that formal Incident Management has been in practice (incident capture strength).

It is becoming clearer that organizations with more formal Incident Management (indicated by the presence of IM SLAs) enjoy a markedly higher proportion of Incidents resolved within expectations.

Problem Management:

The number of Problems added every month has nearly doubled to exceed the Active Problems already in progress (Problem WIP). This implies that the exit rate (rate at which Problems get resolved – or at least closed) has not kept pace with the new Problems recorded every month. The 3.7 month average problem average age at closure implies that newer Problems are being closed very quickly – perhaps too quickly – while older Problems remain.

Executive Summary

Change Management:

Organizations that process RFCs without experiencing any issues tend to have more Changes that are executed correctly the first time. However, it appears that at some point, the longer an RFC is open, the lower the Right First Time rate. This may reflect the Lean "waste of waiting" observation.

This is an update on the Pink Elephant IT Management Metrics Benchmarks Service. Please submit or update your organization's data! The more participants the better! Links to the surveys are online at https://www.pinkelephant.com/MetricsSurvey/.

We welcome comments and feedback. Please comment on this white paper at the blog post to let us know what you think, or write us at feedback@pinkelephant.com.

Table Of Contents

1) INCIDENT MANAGEMENT

Incidents Per Month (Incident Rate):

M1. In a typical month, how many Incidents are closed in your organization?					
0 - 1,000	1,001 - 5,000	5,001 - 10,000	10,001 - 20,000	More than 20,000	na
40%	30%	13%	6%	7%	3%

Incident Quantity/Month Distribution

Average: 5,785

M1. In a typical month how many Incidents are closed in your organization?

0 - 1,000 | 1,001 - 5000 | 5,001 - 10,000 | 10,001 - 20,000 | More than 20,000 | na
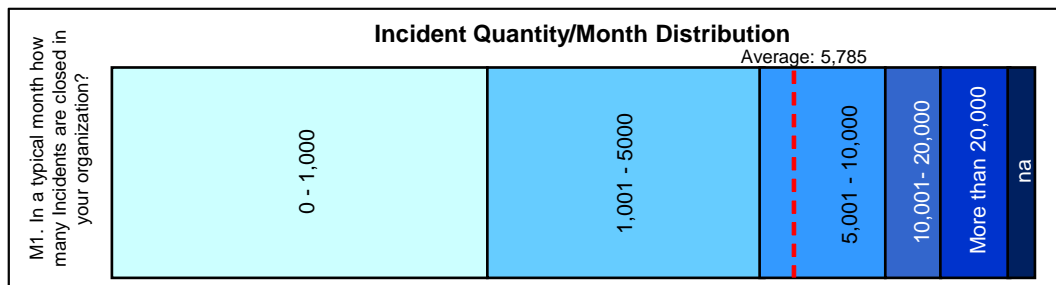
Although the total number of Incidents metric still varies widely, the average declined by 5% from the average of the 2010-2012 survey responses. The size of the IT organization (measured by the number of IT FTEs) has an even stronger relationship with Incident Rate: a positive correlation factor of .49.

First Contact Resolution (FCR Rate):

M2. Of the Incidents closed in a typical month, what percent are resolved by the first person contacted?					
Less than 70%	70% - 79%	80% - 89%	90% - 96%	97% - 100%	na
40%	22%	16%	13%	6%	2%

Incident First Call Resolution Distribution
Average: 74%
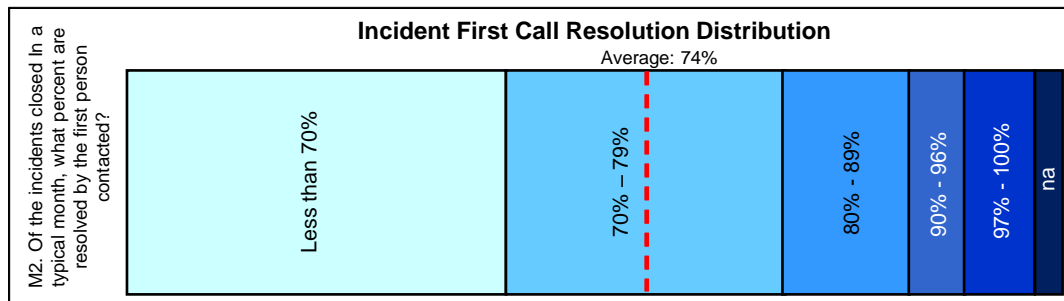
The overall FCR rate is still surprisingly low, and the distribution remains strongly skewed to the low end. Also surprising is that the strongest correlation - a positive .32 with Incident Resolution Interval – remains weaker than expected.

Incident Maximum Priority:

| M3. Of the Incidents closed in a typical month, what percent are assigned the highest Priority?				
0% - 2%	3% - 7%	8% - 15%	More than 15%	na
35%	33%	14%	13%	5%

Incident Maximum Priority Distribution
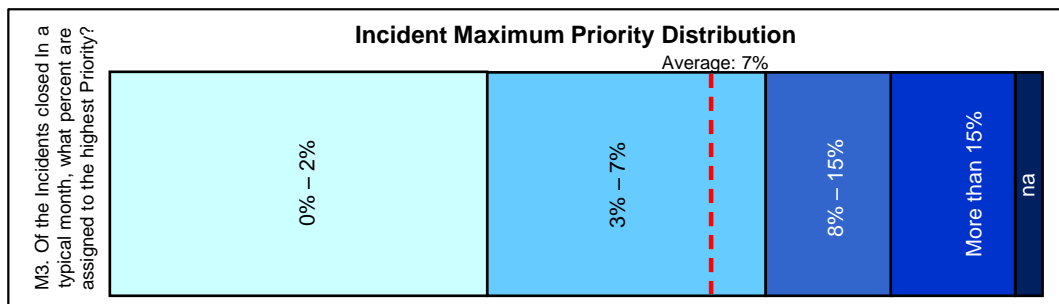
This still appears to be a healthy sign that the "worst case scenarios" are fairly rare. 68% of respondents (2% less than in 2012) have fewer than 8% of their Incidents pegged at the maximum Priority. As might be expected, the strongest correlation is an inverse relationship (-.26) with the Incident Resolution Interval. This is much weaker than was presented in the 2012 analysis. Organizations with low On-time Incident Resolution Rate (longer running Incidents) also have more Incidents getting the highest priority – a vicious cycle.

Incident Resolution Within Expected Interval:

M4. Of the Incidents closed in a typical month, what percent are resolved WITHIN expected interval for the assigned Priority?					
Less than 65%	65% - 75%	76% - 85%	86% - 95%	96% - 100%	na
13%	10%	21%	36%	13%	7%

Incident Resolution Within Expected Interval Distribution
Average: 82%
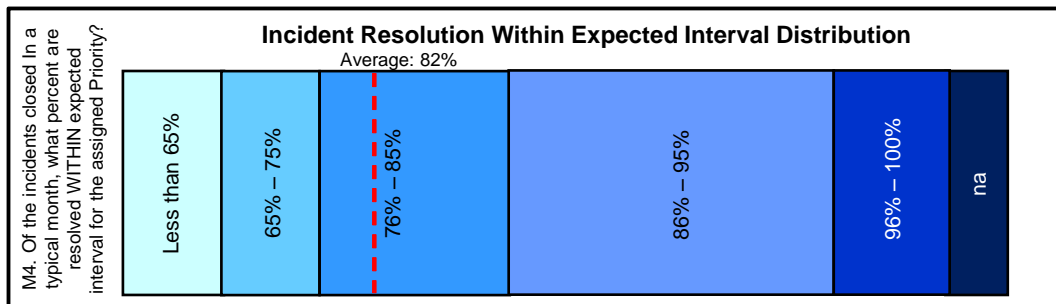
While there has been an improvement in some segments, the average (82%) remains the same as in 2012. This metric has a positive .32 correlation with First Contact Resolution and a negative -.26 correlation with the percentage of Maximum Priority Incidents. It could be that a poorly defined Incident Resolution Interval Expectation may still be an underlying cause (see next item).

Basis For Incident Resolution Interval:

M5. What is the basis for customer Incident Resolution Interval expectations?					
No documented expectation	Incident Management Standards	Incident Management SLA	Service SLA	Combination of SLAs and Standards	na
27%	13%	18%	21%	17%	4%

Basis for Incident Resolution Interval Distribution

This was the most distressing metric in 2012, and is worse in 2013. Now, *more* than a quarter of the respondents have NO basis for Incident Resolution Interval expectations. This is a tricky area. Service SLAs are a good basis, but can become difficult to comply with if there are many different services with varying and "special" requirements to track. Incident Management SLAs are OK – except that it is not good practice to set up Processes as Services. My personal favorite is Incident Management Standards. Each Incident Priority gets a Notice to Response and a Notice to Resolution Target Interval. Service SLAs' availability requirements can be calculated and then Incident Priorities preset for outages.

It is interesting that organizations that have no documented Incident Resolution expectation, span the entire field of survey respondents. More than half are medium sized (50-750 IT FTEs and 100-10,000 users) and just under half are early in their journey (Under 2 years since Incident Management was implemented).

The impact of experience with a process and continual improvement:

The breadth and depth of the Incident Management data provides the following Incident Management metrics averages for "years of experience" (which also indicates the minimum age of the IT organization). We should soon have the same breadth and depth for the Problem and Change metrics:

A1. How long ago was Incident Management first implemented in your organization?

Metrics Question	Data Collected 2010-x	Less than 2 years ago	2 - 4 years ago	4 - 6 years ago	6 - 10 years ago	More than 10 years ago	Corr.
M1. In a typical month how many Incidents are closed in your organization?	2012	3,391	5,479	6,474	9,500	12,438	
	2013	2,817	4,516	8,760	9,941	11,111	.29
M2. Of the Incidents closed in a typical month what percent are resolved by the first person contacted?	2012	76.5%	72.8%	75.9%	64.2%	78.3%	
	2013	76.3%	73.2%	73.9%	68.0%	76.2%	-.07
M3. Of the Incidents closed in a typical month what percent are assigned the highest Priority?	2012	8%	4%	7%	5%	5%	
	2013	9%	4%	6%	5%	6%	-.26
M4. Of the Incidents closed in a typical month what percent are resolved WITHIN expected interval for the assigned Priority?	2012	81%	83%	80%	90%	74%	
	2013	81%	83%	79%	89%	76%	-.02
M5. What is the basis for customer Incident resolution interval expectations?	2012	IM Std.	IM SLA	IM SLA	IM SLA	IM SLA	
	2013	IM SLA	IM SLA	IM SLA	IM SLA	IM SLA	

The responses by the number of users and/or IT FTEs (IT organization size indicator) have been less broad. As the population of the database grows, reliable implications of these factors will be analyzed and provided.

2) INCIDENT MANAGEMENT RESPONDENT PROFILE

Incident Management Process Age:

A1. How long ago was Incident Management first implemented in your organization?

Less than 2 years ago	2 - 4 years ago	4 - 6 years ago	6 - 10 years ago	More than 10 years ago	na
31%	24%	19%	13%	7%	7%

IT User Community Size:

A2. How many people are using your IT services during peak periods? (Please include estimated internet users)

Less than 20	20 - 100	100 - 1,000	1,000 - 10,000	10,000 - 25,000	25,000 - 100,000	100,000 - 300,000	More than 300,000	na
3%	7%	25%	30%	15%	8%	2%	3%	7%

IT Organization Size:

A3. How many Full-Time Equivalent (FTE) people in the IT organization are providing the IT services?(Please include all staff management contractors sourced headcount regardless of location etc.)

Less than 5	5 - 10	11 - 50	51 - 100	101 - 250	251 - 750	751 - 1,500	More than 1,500	na
3%	9%	15%	18%	16%	17%	4%	9%	10%

Parent Organization Industry (selections from NAICS):

A4. What is the primary function of your organization?

Finance and Insurance	13%
Professional, Scientific, and Technical Services	11%
Information	9%
Other Services (except Public Administration)	9%
Health Care and Social Assistance	8%
Manufacturing	8%
na	7%
Public Administration	7%
Educational Services	6%
Utilities	6%
Mining, Quarrying, and Oil and Gas Extraction	4%
Transportation and Warehousing	4%
Retail Trade	2%
Accommodation and Food Services	1%
Administrative and Support and Waste Management and Remediation Services	1%
Agriculture, Forestry, Fishing and Hunting	1%
Arts, Entertainment, and Recreation	1%
Construction	1%
Management of Companies and Enterprises	1%

Location (from respondents' IP addresses):

Respondents' Global Locations:

Asia	Australia & New Zealand	Europe, Middle East & Africa	Latin America	North America
13%	2%	19%	8%	58%

3) PROBLEM MANAGEMENT

Problems Per Month (Problem Rate):

M1. In a typical month, how many new Problems are recorded in your organization?					
0 - 10	11 - 50	51 - 100	101 - 200	More than 200	na
27%	45%	3%	9%	12%	3%

Problems Recorded / Month Distribution

Average New Problems/Mo.: 71.7

M1. In a typical month how many new Problems are recorded in your organization?

0 - 10   11 - 50   51 - 100   101 - 200   More than 200   na
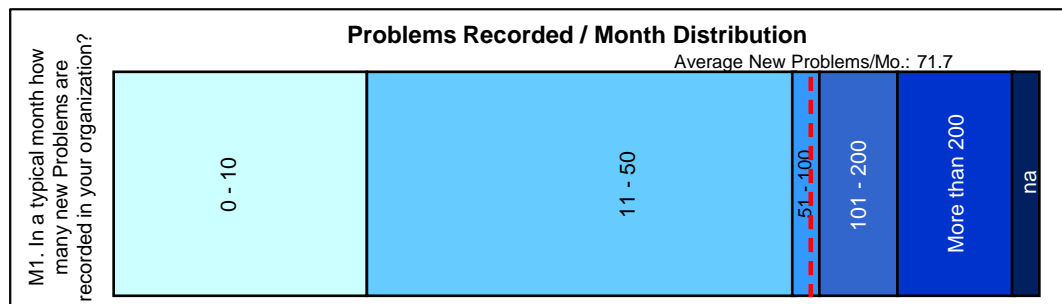
In the 2010-2013 data, the Problem addition rate has increased nearly two fold in absolute terms. The Problem addition rate has also increased over the last year from under 1% of the Incident Rate in the 2010-2012 data to more than 1.2%. This may be due in part to the Incident quantity declining 5% and percentage of Incidents assigned Highest Priority declined by 2 percentage points.

This suggests that most organizations have a strong pareto bias when establishing criteria on which to open Problems, and then, take a while to close them (see Age at Closure below).

It is interesting that the strongest covariance for this metric is with Problem WIP (.85 positive correlation – much stronger than a year ago) and the Number of Users (.44 positive correlation). The correlation with WIP is understandable and also bears out a concern expressed a year ago that the Problem Rate exceeds WIP. As predicted in last year's report, WIP has grown in the last year. It is likely the exit (problem closure) rate is challenged.

There is ample anecdotal evidence that Known Error mitigations compete poorly against other opportunities in Project Portfolio prioritization negotiations. The alternative — raising the Problem initiation threshold criteria, may have been tried. In any event, the Problem backlog appears to be growing.

The correlation of Problems added with the number of users may be as simple as this: the number of users drives a larger set of discrete systems and applications – and therefore more discrete points of failure or unique errors at the root of more problems.

Problems & Known Errors In WIP:

M2. How many Problems and/or Known Errors are actively being worked on (researched, solutions being determined, mitigated/eliminated)?					
0 - 15	16 - 30	31 - 60	61 - 200	More than 200	na
39%	15%	12%	18%	9%	6%

**Problems & Known Errors WIP Distribution**
Average Problems WIP: 66.8
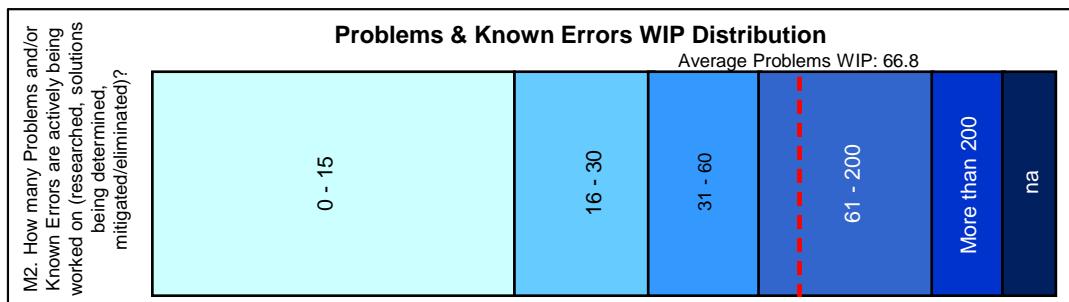
As noted above, the Problem Rate and WIP are very close and enjoy a much stronger positive correlation factor (.85) than a year ago. This implies that the Problem closure rate has grown less than the Problem addition rate.

Problems Assigned Highest Priority:

M3. Of the Problems and Known Errors being worked on, what percent of them are assigned the highest Priority?				
0% - 2%	3% - 7%	8% - 15%	More than 15%	na
33%	21%	15%	18%	12%

Problems Assigned Highest Priority Distribution
Average: 7.9% @ Highest Priority
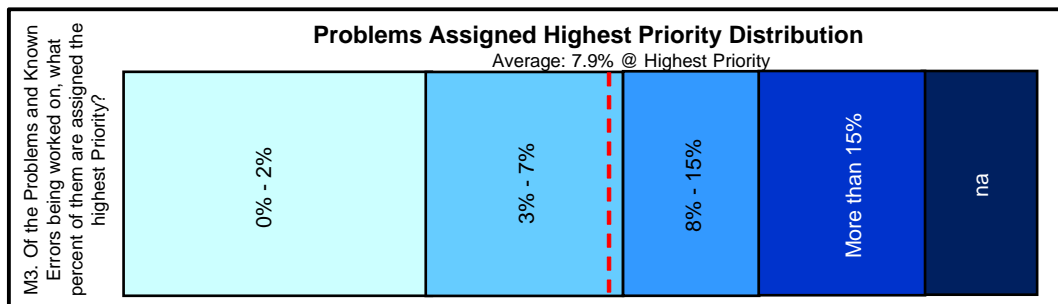
At 7.9% of Problems assigned highest Priority, this also compares closely with Incident Management's 7% Maximum Priority average. The strongest positive correlations are with the Number of Users and New Problems per month per User and per FTE. In a change from 2012, the strongest negative correlation moved to Number of Problems without Known Errors from 2012's Number of Years since Problem Management was implemented and the size of the IT organization (measured in IT FTEs). This metric may also indicate that Problem Management is being practiced like Risk Management – which is a good model for Problem Management. In Risk Management, the priority is a function of the Risk Exposure: the business impact in lost business cost and recovery cost per occurrence times the probable number of occurrences per year.

Problem / Known Error Age At Closure (months):

M4. Over the last year, what has been the average age of Problems and/or Known Errors at closure (Closure: customer accepts implemented resolution or mitigation or customer accepts risk)?				
1 month	2 - 3 months	4 - 6 months	7 - 12 months	na
4%	38%	29%	13%	17%

Problem / Known Error Age at Closure
Average Problem/KE Age @ Closure: 3.7 Mo.
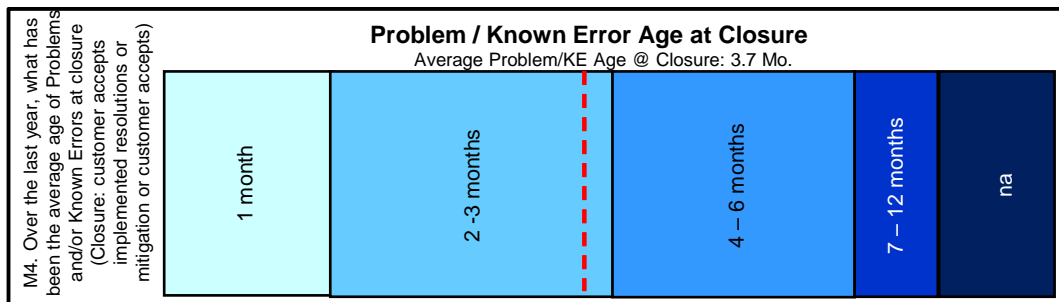
Not knowing what policies govern the closure of Problems, it is difficult to assess the roots of this metric. The only strong correlation is the WIP / User (positive .44), indicating that spreading the pain/risk across users helps build a stronger case to close Problems – again, depending on the closure requirements.

Problems Without Known Errors:

M5. What percent of the current Problems and Known Errors are Problems that have no Known Error? (Current Problems without Known Errors divided by all Current Problems and Known Errors)					
Less than 20%	20% - 39%	40% - 59%	60% - 79%	80% - 100%	na
21%	21%	25%	4%	13%	17%

Problems without Known Error Distribution
Average Problems without KE's : 41.4%.
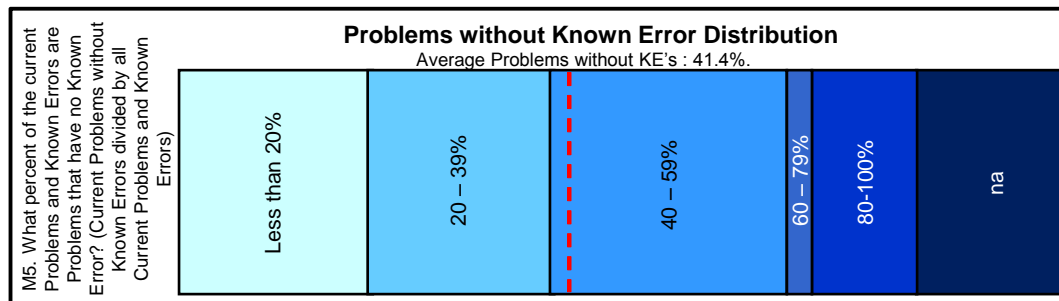
If 41.4% of Problems have no Known Error, then almost half of the Problems appear to have received little attention. It still cannot be determined from the survey why this is the case. It is somewhat comforting to imagine that the Problems with Known Errors are in active mitigation, but they are more likely waiting their turn in the project portfolio queue. Only WIP/User (.44) WIP/FTE (.26) and WIP (.22) correlate more than a weak .2 positive with % of Problems with Known Error. The more slowly (and poorly) Known Errors are identified, the more the Problem WIP will grow.

4) PROBLEM MANAGEMENT RESPONDENT PROFILE

Problem Management Process Age:

A1. How long ago was Problem Management first implemented in your organization?

Less than 2 years ago	2 - 4 years ago	4 - 6 years ago	6 - 10 years ago	More than 10 years ago	na
45%	21%	9%	3%	6%	15%

IT User Community Size:

A2. How many people are using your IT services during peak periods? (Please include estimated internet users)

Less than 20	20 - 100	100 - 1,000	1,000 - 10,000	10,000 - 25,000	25,000 - 100,000	100,000 - 300,000	More than 300,000	na
3%	6%	15%	24%	6%	15%	9%	9%	12%

IT Organization Size:

A3. How many Full-Time Equivalent (FTE) people in the IT organization are providing the IT services? (Please include all staff management contractors sourced headcount regardless of location etc.)

Less than 5	5 - 10	11 - 50	51 - 100	101 - 250	251 - 750	751 - 1,500	More than 1,500	na
6%	3%	9%	3%	18%	24%	6%	9%	6%

Parent Organization Industry (selections from NAICS):

A4. What is the primary function of your organization?

Finance and Insurance	18%
Information	15%
na	15%
Professional, Scientific, and Technical Services	12%
Health Care and Social Assistance	9%
Manufacturing	6%
Public Administration	6%
Retail Trade	6%
Administrative and Support and Waste Management and Remediation Services	3%
Arts, Entertainment, and Recreation	3%
Other Services (except Public Administration)	3%
Wholesale Trade	3%
Accommodation and Food Services	0%
Agriculture, Forestry, Fishing and Hunting	0%
Construction	0%
Educational Services	0%
Mining, Quarrying, and Oil and Gas Extraction	0%
Transportation and Warehousing	0%
Utilities	0%

Location (from respondents' IP addresses):

Respondents' Global Locations:

Asia	Australia & New Zealand	Europe, Middle East & Africa	Latin America	North America
9%	0%	18%	6%	67%

5) CHANGE MANAGEMENT

RFCs Closed Per Month (RFC Rate):

M1. In a typical month, how many Requests for Change (RFCs) are closed in your organization?						
0 - 50	51 - 100	101 - 500	501 - 1,000	1,001 - 2,500	2,501 - 5,000	More than 5,000
21%	14%	31%	10%	5%	9%	10%

RFC Quantity/Month Distribution

Average RFCs / Mo.: 1375.9
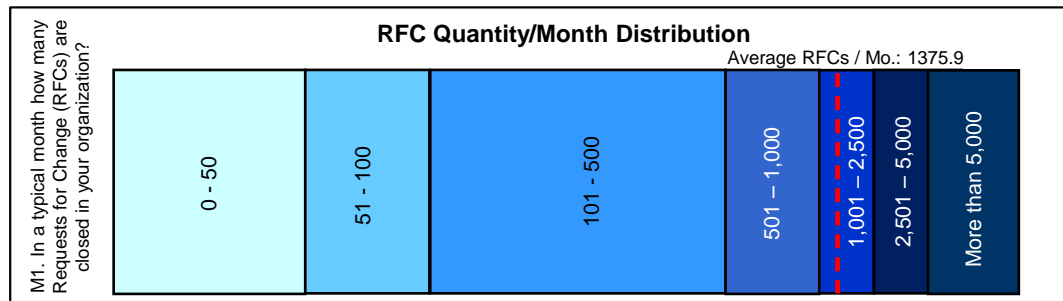
Average monthly RFC rates this high (and up 2% from a year ago) are an indicator of the risks in IT Operations environments. It is no surprise that the RFC rate has a positive correlation (.58, down from .67 in 2012) with the quantity of IT FTEs – a proxy measure for the size of the IT organization) and, a still positive .58 correlation (down from .75 in 2012) with RFC/FTE. Because the surveys are discrete by process, there is no data on the correlation of Incident, Problem and Change rates.

RFCs With No Processing Issues (RFC approval Right First Time rate):

M2. Of the RFCs closed in a typical month, what percent of the RFCs are typically approved and proceed to implementation without any process or procedure issues?				
Less than 70%	70% - 79%	80% - 89%	90% - 96%	97% - 100%
19%	10%	12%	33%	26%

**RFCs Without Processing Issues Distribution**
Average: 85%
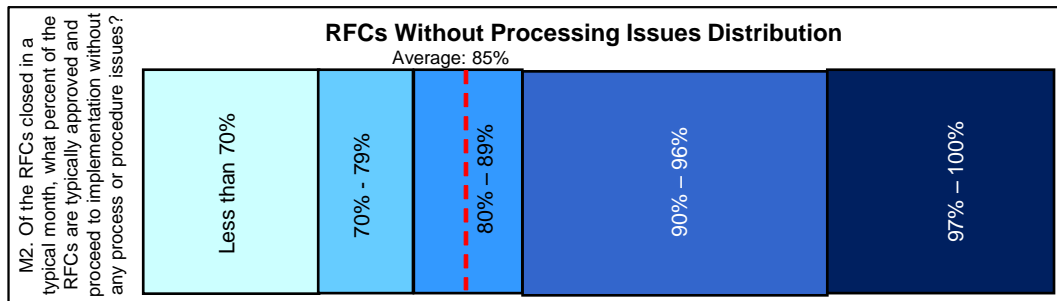
There is an ITIL legend that the approval and processing of RFCs is a trap that slows the rate of change. This 85% RFC approval right first time rate undermines the legend – even though it is 2 percentage points below the numbers reported in 2012. While almost 30% had RFC approval right first time rates above 97%, in 2012, this has declined to 26% in the 2013 survey report. There is a positive correlation between this metric and the RFC Execution Right First Time rate, still indicating that IT organizations with efficient RFC processing procedures also have higher Change Execution Right First Time rates

RFC Right First Time (Change Execution Right First Time Rate):

M3. Of the RFCs closed in a typical month, what percent of the RFCs are typically implemented successfully as scheduled the first time?			
Less than 80%	80% - 90%	90% - 96%	97% - 100%
21%	19%	29%	31%

RFCs Right First Time Distribution
Average: 89%

	Less than 80%	80% - 90%	90% – 96%	97% – 100%

M3. Of the RFCs closed in a typical month, what percent of the RFCs are typically implemented successfully as scheduled the first time?
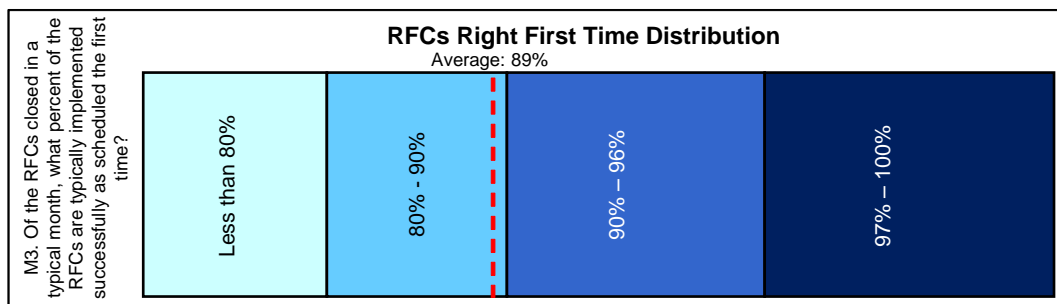
A Change Right First Time (RFT) rate of 89% (just below 2012's 90%) is fair, especially since it includes executing on time as well as not having to roll back the change. Still, a 11% failure rate seems high. This metric has correlations, two of which are not as strong with the newest data as they were before, and one of which is stronger.

- As mentioned above, there is a positive .54 correlation (was .67 in 2012) with RFC approved first time rates
- There is a negative -.22 (was -.35) correlation with the Emergency RFC rate (haste may make waste)
- There is a negative -.37 (was -.34) correlation between the number of days between RFC submission and closure. It is surprising that the longer an RFC is open, the lower the probability the Change will be implemented correctly the first time. This is counter to expectations, and could be because the greater the interval between creating the RFC and execution of the Change:
  - o The less careful and detailed the Change Plan can be, or
  - o The greater the probability that pre-requisite conditions will not be known or in the state expected/required when the Change execution begins

Emergency RFC Rate:

M4. Of the RFCs closed in a typical month, what proportion of the RFCs are Emergency Changes?					
0% - 1%	2% - 4%	5% - 9%	10% - 15%	More than 15%	na
9%	26%	16%	26%	22%	2%

Emergency RFC% Distribution
Average : 10%.

M4. Of the RFCs closed in a typical month, what proportion of the RFCs are Emergency Changes?

0% - 1% | 2% - 4% | 5% - 9% | 10% - 15% | More than 15% | na
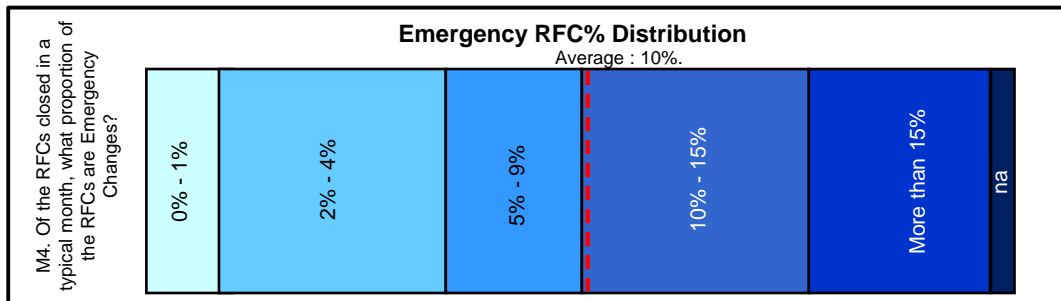
It is not possible to determine for certain why the Emergency RFC rate is this high for almost half of the survey respondents. It could be high priority Incidents (7% of all Incidents in our 2013 IM benchmark), or "Emergency" project work. (Failure to plan or manage performance on a project team's part is an "Emergency" on Change Management's part.) The strongest correlations are the negative -.22 (less than the -.35 in 2012) with Change RFT (above), and positive .22 with IT Staff.

RFC Life Expectancy (Days from RFC submission to Closure):

M5. What is the average interval between RFC submission and RFC closure?						
1 - 5 days	5 - 15 days	15 - 30 days	30 - 60 days	60 - 90 days	More than 90 days	na
9%	36%	22%	14%	9%	7%	3%

RFC Life Expectancy Distribution
Average RFC Life: 30.9 Days
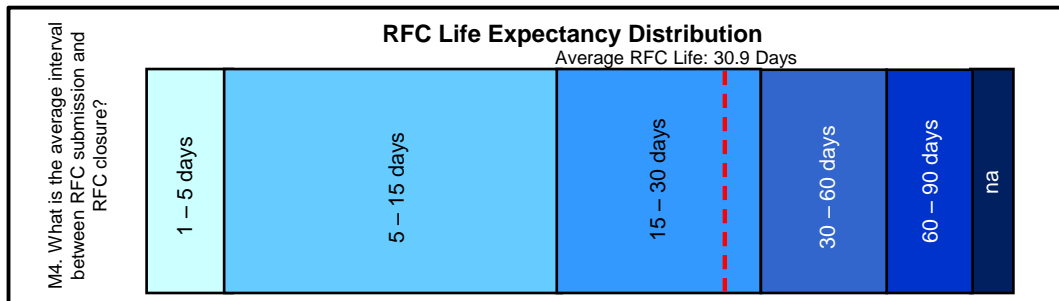
Thirty-one days seems a long time for the average RFC to be open, especially with almost 45% (up from 40% in 2012) open only 1-15 days. This interval may be the result of a large variance in scope ranging from program level changes open for a very long time at the high end of the scale, down to individual CI "touch' changes. The negative -.37 correlation with Change Right First Time affirms that the metrics are at least directionally – if inversely-correlated. The very mild negative -.14 correlation with years since Change Management Implementation may indicate that once Change Management has been practiced for a long time, the interval between submission and closure may shorten.

6) CHANGE MANAGEMENT RESPONDENT PROFILE

Change Management Process Age:

A1. How long ago was Change Management first implemented in your organization?

Less than 2 years ago	2 - 4 years ago	4 - 6 years ago	6 - 10 years ago	More than 10 years ago	na
26%	31%	7%	26%	7%	2%

IT User Community Size:

A2. How many people are using your IT services during peak periods? (Please include estimated internet users)

Less than 20	20 - 100	100 - 1,000	1,000 - 10,000	10,000 - 25,000	25,000 - 100,000	100,000 - 300,000	More than 300,000	na
2%	5%	10%	38%	12%	16%	2%	12%	3%

IT Organization Size:

A3. How many Full-Time Equivalent (FTE) people in the IT organization are providing the IT services? (Please include all staff management contractors sourced headcount regardless of location etc.)

Less than 5	5 - 10	11 - 50	51 - 100	101 - 250	251 - 750	751 - 1,500	More than 1,500	na
0%	5%	9%	5%	19%	26%	9%	22%	5%

Parent Organization Industry (selections from NAICS):

A4. What is the primary function of your organization?

Finance and Insurance	**26%**
Transportation and Warehousing	12%
Public Administration	10%
Manufacturing	7%
Other Services (except Public Administration)	7%
Health Care and Social Assistance	5%
Information	5%
Professional, Scientific, and Technical Services	5%
Retail Trade	5%
Accommodation and Food Services	3%
Management of Companies and Enterprises	3%
na	3%
Administrative and Support and Waste Management and Remediation Services	2%
Construction	2%
Educational Services	2%
Utilities	2%
Agriculture, Forestry, Fishing and Hunting	0%
Mining, Quarrying, and Oil and Gas Extraction	0%

Location (from respondents' IP addresses):

Respondents' Global Locations:

Asia	Australia & New Zealand	Europe, Middle East & Africa	Latin America	North America
5%	3%	17%	7%	67%

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