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MetricVIEWS

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A PUBLICATION OF THE INTERNATIONAL FUNCTION POINT USERS GROUP

SIZING DEVELOPMENTS ON A CMS SYSTEM

ISMA2025: VIRTUAL CONFERENCE

WHAT AGILE PROGRAM MANAGERS NEED TO KNOW ABOUT COST ESTIMATING TO SAVE SOFTWARE DEVELOPMENT

BALANCED MEASUREMENT FOR PROPER DECISION-MAKING

AI FOR FUNCTIONAL SIZING: PENDING THREAT, A FUTURE FAD, OR HARMLESS HOAX?


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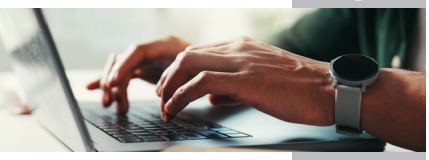

COMMITTEE REPORTS

IFPUG is committed to publishing timely articles related to function and non-functional software measurement in every issue of *MetricViews*. While each article is reviewed for relevancy and clarity, articles, especially those that are innovative and thought-provoking, are not necessarily endorsed by IFPUG.

MESSAGE FROM THE PRESIDENT

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Dear Members and Readers,

Welcome to the latest edition of *MetricsViews*, the premier journal for software measurement and estimation professionals. As we continue to navigate the ever-evolving landscape of software development, it is crucial to stay informed about the latest methodologies, best practices, and insights that drive our industry forward.

In this edition, we are thrilled to share highlights from the ISMA 2025 Virtual Conference. This event brought together industry experts and software measurement professionals from around the globe to discuss pivotal aspects of software measurement and its impact on business value. Building on the success of ISMA 2025, IFPUG is preparing for its next major event, ISMA 2025 Hybrid, scheduled for September/October 2025. This hybrid conference will continue the exploration of IT's value to business, offering both in-person and virtual attendance options to accommodate a global audience.

We also feature an insightful article by Carol Dekkers on what agile program managers need to know about cost estimating to save software development. Carol highlights the importance of data-driven estimates, the professional discipline of software cost estimation, and the critical role of defining scope. She also discusses the non-linear nature of software development costs and the impact of development methodologies on cost drivers.

Additionally, Marcello Sgamma provides methodological guidelines for sizing CMS development activities. His article delves into the core features of CMS, the development activities involved in creating new content templates, and the application of Function Point Analysis (FPA) and Software Functional Points (SFP) sizing to CMS development.

Thank you for your continued support and engagement. We hope you find this edition of *MetricsViews* both informative and inspiring.

Warm regards,

Roopali Anand Thapar
IFPUG President

I will start this note with a bold statement. No one has had an impact across the world on software quality, software measurement, and software cost estimation as Capers Jones. Watts Humphrey, a fellow colleague of Capers at IBM in the late 1950s and 1960s had a tremendous impact on software licensing, software engineering, and software capability. His focus on the individual, the team, and the organization is evidenced by his development of the Personal and Team Software Processes, as well as the Software Capability Model. Earlier than either of these gentlemen, one could point to Grace Hopper, the developer of COBOL and the person credited with the writing of the first computer manual, as a prominent contributor to information processing. Countless others could be mentioned here for their life's work advancing the state of software.

In a similar way, *MetricViews* serves as a conduit for the progression of software practices, and this issue is no exception. Marcello Sgamma explores sizing insights for content management systems—applications that we likely touch many times a day. Carol Dekkers identifies lessons learned about software cost estimation summarized from her recent work with industry leaders and her own lifelong journey. Luigi Buglione sharpens our decision-making abilities by using different perspectives to analyze and balance alternatives.

By the time this issue is scheduled for release, many of you have already seen extracts from Capers most recent work. These five "episodes" cover a variety of software development and measurement topics—what else would you expect from Mr. Jones? Much of his content has an artificial intelligence (AI) slant. And if AI piques your interest, don't miss my article: *AI for Functional Sizing: Pending Threat, a Future Fade, or Harmless Hoax?* Capers served kindly as a guest editor reviewing this article.

As with every issue, I extend my thanks to the authors of their thoughtful articles, and to CMA for their contributions to the quality of the articles in *MetricViews*. Along with our President's Message and updates from our Board and committee members, we're keeping the *international* in IFPUG, still.

Be well, stay well.

Joe Schofield
Editor, Past President, Honorary Fellow

ISMA 2025 Virtual

Powered by IFPUG

By: Kiran Yeole

On April 11, the International Function Point Users Group (IFPUG) successfully hosted the ISMA 2025 Virtual Conference. This event brought together industry experts, practitioners and software measurement professionals from around the globe to share their insights and experiences in software measurement and analysis.

Key Highlights

The half-day virtual event featured four insightful sessions, each addressing pivotal aspects of software measurement and its impact on business value:

- **"Integrating and Using an Estimation Method with Agile Workflow in Software Development":** This session explored a straightforward, cost-effective and low-risk approach that organizations of all sizes can adopt to seamlessly integrate estimation methods with agile workflows.

  Speakers Thiago Conceição and Dr. Carlos Simões also highlighted how this strategy can reduce risks, improve resource utilization and enhance the overall value delivered through projects.

- **"Measuring NFRs in Application Security Functionalities" – CEP Eligible Presentation for CSS Certificate Extension.** This session offered practical guidance on applying the IFPUG SNAP methodology to assess the non-functional aspects of security requirements in software applications.

  Daniele Zottarel, Luigi Buglione and Fabrizio Di Cola from IFPUG's NFSSC committee, demonstrated how to apply non-functional assessment techniques to real-world security functionalities, enabling more comprehensive and standardized measurement.

- **"Measuring Agile Team Performance for Accurate Cost Estimates" –** Speaker Harold van Heeringen emphasized in the session that strong IT management remains critical, even in agile and DevOps environments. He underscored the continued importance of planning, cost estimation and performance measurement to maintain visibility and prevent cost overruns. By leveraging data-driven insights, organizations can gain a clearer understanding of team performance and the value being delivered, leading to more accurate forecasting and better-informed decision-making. This ultimately enhances predictability and maximizes value throughout the project lifecycle.

- **"A Practical Approach to Identify Logical Files"** – In this session, Cleber Ferrareze from the FSSC provided a structured guideline to simplify the complexity of data function measurement. He shared practical techniques to confidently identify logical files and introduced a comparative method for evaluating entity relationships. This approach enables participants to streamline their analysis and improve the efficiency and accuracy of their assessments.

These sessions not only offered valuable knowledge but also contributed to professional development, with select presentations eligible for CFPS and CSS certification extension credits. Additionally, attendees could earn PMI PDUs, PeopleCert CPDs and CEPAS SCH174 Training Credits, underscoring the conference's commitment to continuous learning.

Global Engagement and Accessibility

The virtual format of ISMA 2025 facilitated widespread participation, allowing professionals from various regions to engage without geographical constraints. The conference attracted a diverse audience, including software engineers, project managers and measurement experts.

Looking Ahead

Building on the success of ISMA 2025, IFPUG is preparing for its next major event, ***ISMA 2025 Hybrid*** to be scheduled in September/October 2025. This hybrid conference will continue the exploration of IT's value to business, offering both in-person and virtual attendance options to accommodate a global audience.

For more information on upcoming events and resources, visit ifpug.org

SIZING DEVELOPMENTS ON A CMS SYSTEM

By: Roberto Meli

Abstract

A content management system (CMS) typically has two major components: a content management application (CMA), as the front-end user interface that allows a user, even with limited expertise, to add, modify, and remove content from a website without the intervention of a webmaster; and a content delivery application (CDA), that compiles the content and updates the website. CMS features are typically provided by an off-the-shelf environment, either commercial or shareware/freeware. All CMS systems provide functions to customize at least publishing features, and these customizations are often part of software development projects. Development activities usually impact both CMA and CDA environments. This document concentrates on the sizing of the content development and publishing functionalities, in order to provide methodological guidelines for sizing CMS development activities which add functionalities to the CMS system.

Introduction

A CMS is computer software used to manage the creation and modification of digital content (content management). A CMS is typically used for enterprise content management (ECM) and web content management (WCM). ECM typically supports multiple users in a collaborative environment, by integrating document management, digital asset management, and record retention. Alternatively, WCM is the collaborative authoring for websites and may include text and embedded graphics, photos, video, audio, maps, and program code that display content and interact with the user. ECM typically includes a WCM function.

In general, a CMS consists of two elements: the CMA and the CDA. The CMA element allows the content manager, who may not have knowledge of HTML, to manage the creation, modification, and deletion of content from a website without the need to have expertise as a webmaster. The CDA element uses and gathers information that previously has been added, subtracted or changed by the website owners to update or renew the website.

The core CMS features are indexing, search and retrieval, format management, revision control, and management. Features may vary depending on the system application, but will typically include:

- Intuitive indexing, search, and retrieval features index all data for easy access through search functions and

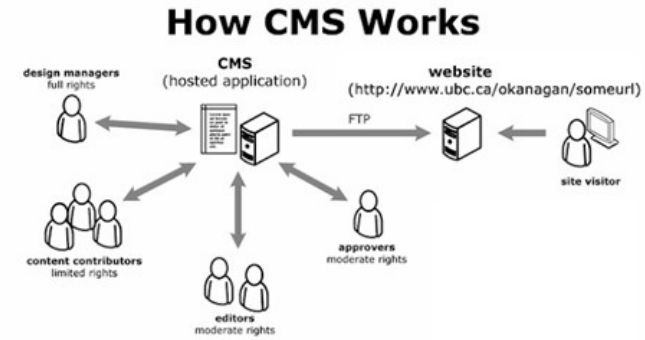

Figure 1 – How ACMS works (courtesy of UCB)

allow users to search by attributes such as publication dates, keywords or author.

- Format management facilitates turning scanned paper documents and legacy electronic documents into HTML or PDF documents.
- Revision features allow content to be updated and edited after initial publication. Revision control also tracks any changes made to files by individuals.
- Publishing functionality allows individuals to use a template or a set of templates approved by the organization, as well as wizards and other tools to create or modify content.

All these features are typically provided by an off-the-shelf environment, either commercial or shareware/freeware. All CMS systems provide functions to customize at least publishing features, and these customizations are often part of software development projects. Development activities usually impact both CMA and CDA environments.

This document concentrates on the sizing of the publishing functionalities, in order to provide methodological guidelines for sizing CMS development activities which add functionalities to the CMS system.

Staging and publishing architectures

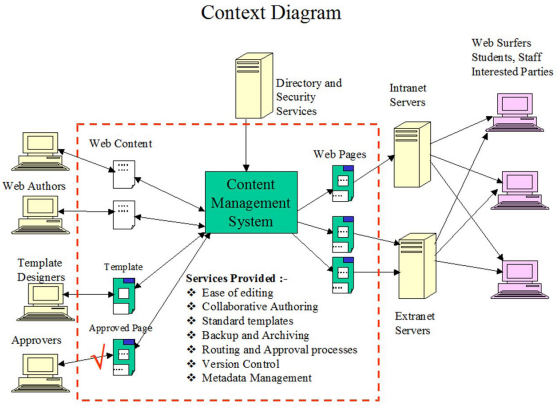

Figure 2 – CMS basic architecture

Business users for a CMS system are:

- Template designers: users whose main activities are designing and implementing types of content (e.g.: banners, special forms, web page templates).
- Web Authors: also called CMS "editors," who produce content instances (typically web pages) using templates.
- Approvers: users responsible for approving content instances before publishing and possibly initiating the publishing of approved contents.

The CMA environment provides support for design and development activities (staging architecture), while the CDA environment takes care of publishing. Figure 3 shows main architectural components for both staging and publishing architectures.

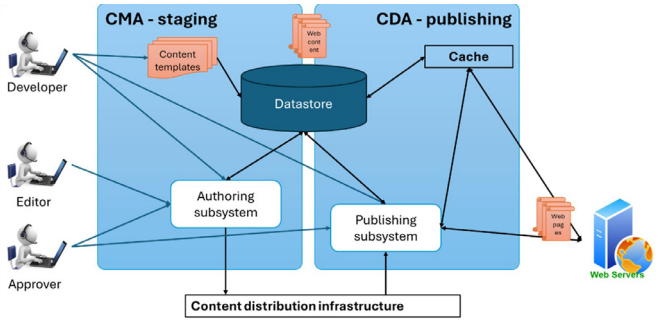

Figure 3 – Staging and publishing components

Purpose, scope, and boundary

When delivering a CMS solution for a customer, providers usually are required to produce new content templates and to enable editors to produce contents using these templates and approvers to publish contents in web pages.

With the purpose of sizing these provider activities, the scope covers both staging and publishing components, which could be seen as parts of the same boundary, as depicted in Figure 4.

Development activities for a new local content

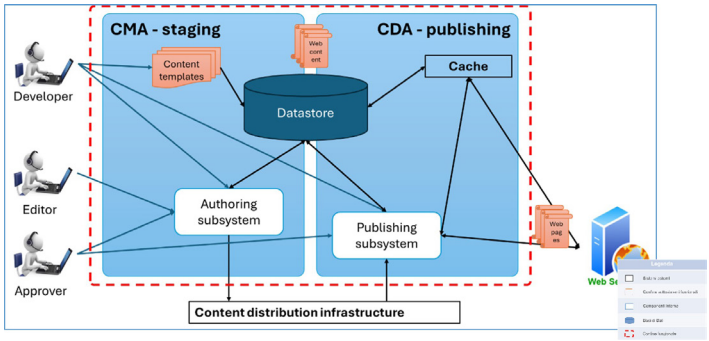

Figure 4 – CMS functional architecture

Normally, development activities for a new graphic object (widget, block, form, etc.) involve the following steps:

- Registration of a new graphic object (template) on the CMS data store, with formal definition (in terms of typed attributes) of a data structure to contain object instances (contents).
- Development of a dedicated graphic interface for handling insert, view and modify operations on the object instances by the editors.
- Development of one (or more) script(s) (usually html code) for managing published content visualization; these scripts build the graphical layout for the visualization; some contents may have different visualization possibilities, so multiple scripts may be needed for such objects (example: a news content, which has a block summary visualization for a summary page and a full-page extended visualization for the detail page).
- Possible development of scripts for managing visualization in the staging environment, which builds the layout for visualization in CMA (needed for testing and validating activities); sometimes logical treatment is the same than that of the script for the production environment, but in some cases different logic is required for proper management in the two environments.

All these development objects provide significant functionalities to the business users of the CMS system.

Example

Figure 5 shows a content example with a page containing two contents of type CUSTOM EDITORIAL, having following editor configurable characteristics:

- Color and direction of left icon
- Central rich text
- Hyperlink to other page

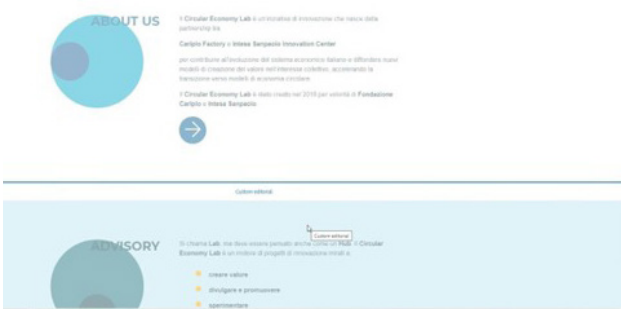

Figure 5 – Content Example

Figure 6 shows an example of a configuration dialog for a content.

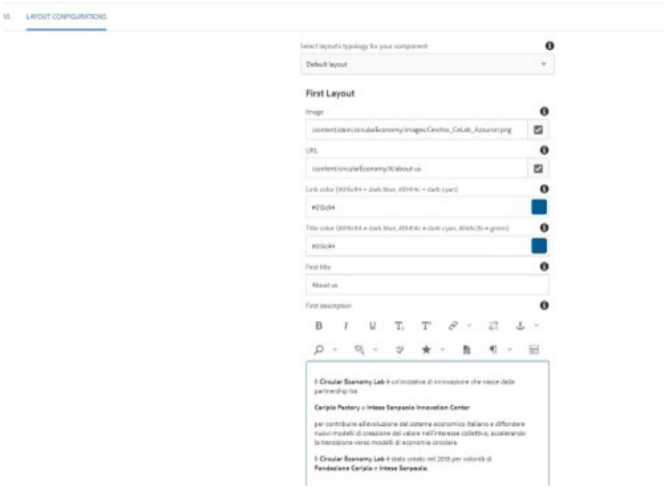

Figure 6 – Configuration dialog example

Functional sizing guidelines

Applying FPA to the development of new content, the following objects can be sized:

- An Internal Logical File (ILF) for the content template; the number of configurable attributes of the template define ILF complexity; each content instance may be seen as a "record" within corresponding ILF.
- Two External Inputs (EIs) for insert and update operations, and an External Query (EQ) for view operation on content attributes through the configuration dialog box; number of shown/configured attributes (DETs) define objects complexity (please consider also DETs for activation, result and possibly error message).
- An External Output (EO) for any script with distinct logical treatment, produced for content visualization in different contexts in staging and production environments; consider EOs because these scripts change system behavior; content's DETs crossing the border (used for managing content visualization) define EOs complexity.

When sizing a maintenance activity, apply the above guidelines to objects actually changed during enhancement.

SFP sizing guidelines

Applying SFP sizing to development of a new content, the following objects can be sized:

- A Logical File (LF) for the content template; each content instance may be seen as a "record" within the corresponding ILF.

- Three Elementary Processes (EP) for inserting, updating and viewing operations on content attributes through the configuration dialog box.
- An EP for any script with distinct logical treatment, produced for content visualization in different contexts in staging and production environments.

When sizing a maintenance activity, apply the above guidelines to objects actually changed during enhancement.

Development activities for customizing native content

Sometimes Functional User Requirements (FURs) require changing the aspect or behavior of CMS native contents. In these cases, development activities may involve any of the following steps:

- Modification of a native data structure on the CMS data store, with changes and/or adding od attributes to the definition of the data structure containing native contents.
- Changes to the native graphic interface for handling insert, viewing and modifying operations on the modified native contents.
- Changes to native script(s) managing content visualization in different contexts in staging and production environments.

The above-shown guidelines for FPA and SFP sizing simply apply also to these customization activities, with the same Base Functional Components identification and complexities measure.

Conclusions

When performing development activities in a CMS environment, both defining new content templates and customizing native ones, basic FPA and SFP sizing principles apply to impacted objects. Depending on FURs, the following objects could be sized:

- New or modified templates as Logical Files
- New or modified configuration dialog boxes as Elementary Processes
- New or modified visualization scripts as Elementary Processes

Object sizing may vary depending on applied methodology, whether FPA or SFP.

ABOUT THE AUTHOR

Marcello Sgamma graduated in Computer Sciences at the University of Pisa with a diploma from Scuola Normale Superiore. He is a senior consultant and an expert in functional and architectural analysis and in software metrics. With 30 years of experience in the ICT sector, he has gained skills from the management of software development to designing applications and service management solutions, as well as providing functional and architectural analysis of web portals, e-commerce solutions, etc. In recent years, his consulting activities have focused on the sizing of functional and non-functional developments, teaching and tutoring functional sizing, and in the functional analysis of projects and evolutions for the insurance market. A CFPS and CSP since 2015, he has been an active member of the IFPUG FSSC and NFSSC since 2021.

WHAT AGILE PROGRAM MANAGERS NEED TO KNOW ABOUT COST ESTIMATING TO SAVE SOFTWARE DEVELOPMENT

By: Carol Dekkers, PMP, CFPS (Fellow), SCEC, P.Eng. President, Quality Plus Technologies Inc.

Abstract

Software development today is dominated by agile methods, Scrum, Kanban, Scaled Agile, intended to deliver customer-centric software, quickly, flexibly, and more efficiently than previous waterfall methods ever could. Yet, even after two decades, the jury is out as to whether agile development has been a success at delivering software on-budget and on-time. Many researchers and agile tool vendors cite ongoing rationale for late or over-budget software deliveries, but few realize that immaturity or over-optimistic budgets and schedules are part of the problem. If we can fix the program estimates to be realistic and data-founded, then the software contracts and release schedules can also follow suit and guarantees of software success should rise.

As the lead author of the International Cost Estimating and Analysis Association (ICEAA) Software Cost Estimating Body of Knowledge (CEBoK-S), I collaborated for a year and a half with some of the world's foremost experts in software cost estimation. The work was challenging, ambitious and leveraged my project management skills and software measurement knowledge, and I gained a “firehose" level of experience. Software cost estimation is both a complex and professional cost, and this article outlines what agile developers need to know to leverage cost estimating and create success on their software-intensive programs. These were the lessons I did not know that I learned in the process, and I now impart to you

10 Key Principles for Effective Software Cost Estimation

1. Data-Driven Estimates Are Stronger Than Theory or Opinion

Estimates grounded in historical data are more defensible

than those based solely on theory or expert opinion. If internal data is unavailable, seek publicly available sources such as commercial estimating tools or databases like the International Software Benchmarking Standards Group (ISBSG) repository. If data is still limited, consider using the Wide Band Delphi technique, which relies on expert consensus in place of hard data. Remember the cone of uncertainty and refer to published industry benchmarks for guidance. A defensible estimate serves as a firm foundation—a "line in the sand"—to support decision-making. For Agile development, consider T&M (time and materials) contracts to allow flexibility for change. (See the *Acquisition & Management Concerns for Agile Use in Government Series: Estimating in Agile Acquisition* by the Software Engineering Institute.)

2. Software Cost Estimating Is a Professional Discipline
The Cost Estimating Maturity Model illustrates that software cost estimation is a complex, professional endeavor. Most organizations begin at Level 1, lacking a structured approach to estimation, reinforcing the need for improved practices.

3. Defining Scope Is Critical
A well-defined estimation scope is essential to producing meaningful and accurate estimates.

4. No 'One-Size-Fits-All' Approach
Software cost estimation methods vary depending on the purpose, timing, and type of estimate, as well as available data. Successful estimating goes beyond calculating software size and applying a generic productivity rate—it requires tailored approaches and thoughtful consideration of project specifics.

5. Software Size Is Fundamental to Parametric Estimating
Quantifying software size is key to building effective Cost Estimating Relationships (CERs). While task-based (bottom-up) estimating has value, size is a known cost driver. Much like construction projects that rely on cost-per-square-foot calculations, software size should factor prominently in cost estimation. Combining multiple estimation methods can improve accuracy.

6. Estimating Software Size Using Standard Units of Measure
Software size can be estimated using standard units of measure (UOM) and early requirement documents such as Concept of Operations (ConOps), EPICs, or preliminary backlogs.

7. Software Development Costs Are Non-Linear
Software development follows an S-curve cost pattern, subject to diseconomies of scale (where effort increases disproportionately as project size grows). Unlike hardware production, software development rarely benefits from linear cost scaling—analogous estimates are only viable within certain size ranges.

8. Development Approach Impacts Costs
The chosen development methodology—whether waterfall, agile, or hybrid—affects cost drivers. In-house development versus third-party vendor engagement also introduces cost

considerations that must be factored in.

9. Hybrid Development Requires Multiple Estimates
Most software development efforts involve hybrid solutions that blend custom code, COTS software, glue code, and SaaS. These projects often require multiple estimates. Factors such as technical baseline data, historical references, quality requirements, and sustainment costs should be incorporated to ensure realistic projections.

10. Procurement and Leadership Costs Should Be Considered
The balance between in-house development and outsourced procurement can significantly influence cost estimates. Additionally, leadership costs should not be overlooked—large-scale programs, especially those involving complex systems-of-systems, demand robust leadership to ensure successful delivery.

Ideas and Next Steps (Based on Today's Environment)

As an agile tester or agile developer, collaboration with the software cost estimating team is needed to ensure that the software estimates (4 parts) are reasonable, realistic, inclusive, and presented in context. This must be a joint effort that starts with the project initiation documents (such as ConOps) through to estimating through to development release strategies, contracting, development and change management, and culmination in the software release(s.) Data collection and maintenance of a repository are also collaborative efforts where the quality team and project management organization (PMO) should play a lead role.

Consider the Benefits of Better Software Cost Estimates on Your Project Success and How to Build the Competency in Your Company

Formal approaches to cost estimating are available and agile developers who want better contracts, budgets and realistic schedules need to pay attention to these industry best practices One such curriculum is available from the ICEAA Cost Estimating Body of Knowledge for Software (CEBoK-S), a comprehensive resource that outlines best practices, methodologies, and key concepts in software cost estimation. Other guidebooks such as those published by the US Government Accountability Office (GAO) or federal agencies can also provide best practices together with CERs and SERs.

As an example, the CEBoK-S covers essential knowledge across the following critical cost topics (and more):

Types of Software Cost Estimates and Key Considerations
- Lifecycle cost estimates
- Rough Order of Magnitude (ROM) estimates

- Software development and sustainment estimates
- Risk factors and uncertainty management

Selecting the Best Estimation Approach
- Choosing appropriate methods based on project scope, timing, and available data

Critical Estimation Concepts
- Estimating Maturity Model
- Software size and productivity metrics
- Ground rules and assumptions
- Data normalization and analysis techniques

Steps for Developing a Reliable Estimate
- Establishing clear objectives
- Leveraging historical data
- Incorporating risk adjustments

Cross-Checking and Presenting Estimates
- Ensuring estimates are realistic, defensible, and effectively communicated to management

By following formal and proven software cost estimating approaches, agile professionals can enhance their skills, improve estimation accuracy, and contribute to more successful software project outcomes.

How Cost Estimators and Agile Software Teams Can Work Together to Achieve Success

Given that software cost estimates remain a requirement for acquisition and software development funding, it is critical that the best possible, data-founded, and realistic software estimates are developed.

While it might seem that a software cost estimate would be a range of numerical values representing the estimated software development size, effort, cost, and schedule (duration), a good software cost estimate should consist of much more.

Conclusions

As outlined in this article, poorly prepared software cost estimates—whether due to lack of knowledge or insufficient care—can lead to underbudgeting, significantly reducing a project's chances of success. While estimating software costs will always involve some degree of subjectivity and assumptions about future developments, estimates grounded in formal processes, normalized historical data, and expert input provide a stronger foundation for project success.

Although improved cost and schedule estimates cannot guarantee project success, they can significantly enhance outcomes when combined with better data, proven estimating processes, and close collaboration between developers and estimators.

Furthermore, recognizing software cost estimation as a professional discipline—one that requires formalization, standardization, and dedicated expertise—can improve contracting strategies and secure appropriate funding. This, in turn, increases the likelihood of delivering projects on time and within budget.

Ultimately, estimates represent informed predictions of project costs and effort under ideal circumstances. While they are not absolute guarantees of performance—especially given the unpredictability seen in historical data—they provide a critical baseline. Estimates built on realistic data and sound CERs offer teams a solid foundation for managing changes and improving project success rates.

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- International Function Point Users Group (IFPUG) www.ifpug.org
- Quality Plus Technologies, Inc. www.qualityplustech.com

ABOUT THE AUTHOR

Ms. Carol Dekkers is a Certified Scrum Master (CSM), a Certified Function Point Specialist (CFPS-Fellow), a Professional Engineer (P.Eng-Canada) and a Certified Software Cost Estimator (SCEC). She is also the lead author of the International Cost Estimating and Analysis Association (ICEAA)'s new Cost Estimating Body of Knowledge for Software (CEBoK-S), and a long-standing member of the U.S. delegation to the International Organization for Standardization (ISO) subcommittee for writing Software and Systems Engineering standards. Ms. Dekkers' expertise spans software development, software measurement, quality engineering, project management, and software cost estimating and she has shared her insights with technical and non-technical professionals worldwide through keynotes/ presentations, textbooks, and articles published in industry journals. Ms. Dekkers has received numerous awards for her industry contributions and thought leadership including Computing Magazine Global Leader in Consulting – Pro Bono (2023), ICEAA Educator of the Year (2022), IFPUG Honorary Fellow (2022), Brazil and Korean metrics associations special awards (circa 2010) and was named one of the 21 New Faces of Quality for the 21st Century by the American Society for Quality, ASQ (2000.).

BALANCED MEASUREMENT FOR PROPER DECISION-MAKING

By: Luigi Buglione

BALANCE = EQUILIBRIUM

One of the constant aspects of life is to balance its "ingredients." For example, balancing work time with personal time, finding the right quantities for the ingredients to use in the kitchen and respecting the health threshold values.

"Equilibrium" is the target objective. Measurements resulting from measuring help to evaluate the degree of achievement. In popular iconography, equilibrium is generally represented by the two plates of a mechanical scale, by a binary choice of yes or no; that is by two states or conditions. And often, even in projects, the dimensions of analysis considered risk being only or often, two: time and costs.

But this oversimplification of risks causes projects and activities to fail. The dimensions (or perspectives) that can be analyzed for a complete control cannot be limited to two but are and must be at least three. Consider personal health (blood sugar, blood pressure, and cholesterol), the evaluation of sommeliers for a wine (smell, taste, vision), and the parameters considered for the purchase of a car (performance, engine capacity, dimensions, and type of fuel). So why stop at just two dimensions (time and costs) in the evaluation of projects? Those two are simply insufficient. The RE (Relative Error) ratio can be used and is expressed where E = Estimate, A = Actual

$$RE = (E - A) / A$$

The level of "tolerance" to estimation error obviously varies from case to case. However, introducing some measurement monitoring (as Italians would say in cookbooks: "q.b."; that is, "*quanto basta*," or in English, "as much as needed") beyond "time and costs" would certainly help.

BMP (BALANCING MULTIPLE PERSPECTIVES): A POSSIBLE TECHNIQUE

A technique gives a possible example– BMP (Balancing Multiple Perspectives) [2] – which proposes to:

http://www.semq.eu/leng/modtechbmp.htm

1. Determine the dimensions of interest in the project with at least three dimensions, though four or five is preferable. Possible examples include EFQM (European Foundation for Quality Management), Malcolm Baldrige, and BSC (Balanced Scorecard) models;

2. Determine the list of the most representative measurements associated with each dimension;
3. Identify which other control variables might be impacted negatively by each of the measurements selected. Counter-productive impacts such as higher quality often mean a greater initial cost or longer project duration. The same applies to cost and risk;

4. Determine the best combination of indicators and the causal relations between them to build a project measurement plan.

This is an example of a generic BMP template taking into account four possible dimensions of analysis, with the positive (↑), neutral (=) or negative (↓) impacts:

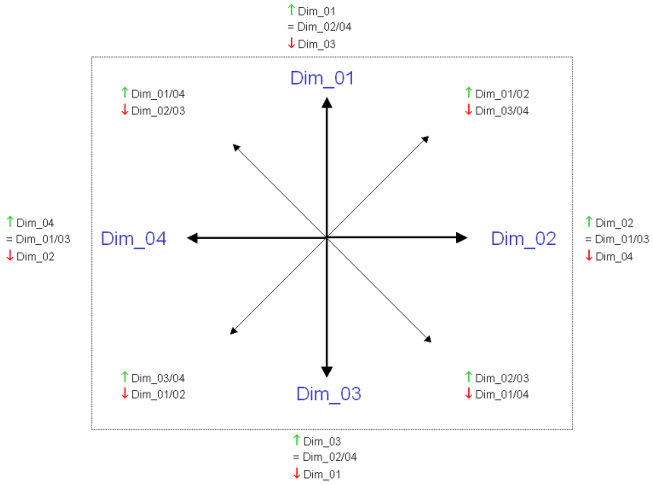

Figure 1 – BMP: Dimensions of Interest and possible cause-effect relationships

Let's take an example:

1. The analysis dimensions are four: time (T), costs (C), quality (Q) and risks (R). They can be represented visually as the four sides of a sheet of paper (Figure1).

2. Identify a series of measurements that can be associated with the four dimensions. They can be visually positioned on the map shown in on the right side of Figure 2. (These measurements were selected from the Practical Software & System Measurement (PSM) Guide [6]).

3. Use direct measurements to create indirect measurements. As an example, the ratio between the direct measurements of effort (man/days) and duration (calendar/days) enables the application of the indirect measurement FTE (Full Time Equivalent). Similarly, the ratio between the direct measurements of quantity (Q) and time/effort (T) provides for the indirect measurement of a productivity value. The agile world refers to this value as *velocity*. Its inverse formula, T/Q, reflects the *PDR* (Project Delivery Rate) and allows the estimation of the release rate. Both values are complementary pieces of information with distinct information values.

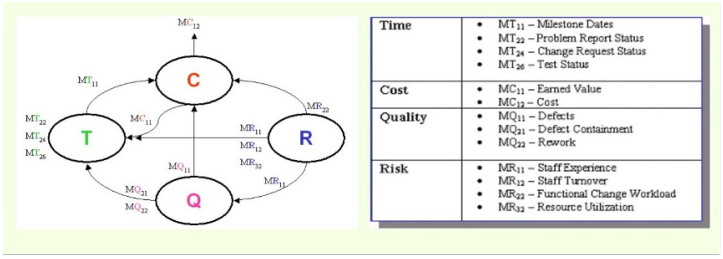

Figure 2 – BMP: Dimensions of Interest and Measurement Distribution

Note: This exercise can highlight gaps or unnecessary measurements in a measurement plan. For example, if you want to calculate an indirect measurement such as productivity or a percentage, confirm that the basic measures needed for the calculation are available. If not, you can improve the measurement process by adding a definition (before) and collection (after) of the new basic measurement.

BMP: ANALYZING AND PREDICTING THE EFFECTS...

Visualizing a phenomenon makes it more understandable, as well as the direction with the other parameters being analyzed. In our case, we should hypothesize possible relationships between the dimensions of analysis, for example:

- Objective: reduce time/effort - T (↓)
- Possible effects:
  - a. Costs are reduced - C (↓)
  - b. Quality is reduced - Q (↓)
  - c. Delivery risks increase - R (↑)

More useful considerations might be to:

- Review existing measurements that can be associated with the four dimensions.
- Remember that Time (Effort/Duration) and Costs are easier to track.
- Use ISO 25000 series [7] since "Quality" includes many possible measurements.
- Measure and evaluate the size of a "risk." Standards like ISO 22301 [8] or ISO/IEC/IEEE 12207 [9] could be two sources of answers, particularly with some process-based measurements.

As another example, if the project is late, then we could say that T (↑) C (↑) Q (↓) R (↑).

- Analysis: Spending more time and money than expected

is an *effect*, but the *cause must be identified*. Analyzing (measuring) the Q/R dimensions can help us understand the possible *causes* and obtain a RE (Relative Error) within "tolerable" limits.

For example, the team failed to respect the assigned times due to the lack of a so-called *timekeeper*. It may seem trivial, but the organizational and process aspects can significantly impact the project output. Identifying the occasional *(special causes)* or regular *(common causes)* frequencies of these phenomena allows us to understand whether:

- We are getting back on *track* and maintaining the intended purpose (scope)
- We need to remodel the project purpose with different hypotheses such as:
  - T (↓) C (↓) Q (↓) R (↑),
  - T (=) Q (↓) C (↓) R (↑), or
  - something else

SOME CONCLUSIONS...

Concepts like productivity are often idealized, but in everyday life there is a risk of not defining and measuring quantities, effort and durations. As previously discussed, the expertise of a Measurement Specialist [10] [11] can certainly help to make informed decisions considering the correct use of measurement scales and metrology principles.

A correct application of the measurement aspects allows any decision-maker to have at its disposal data, information, and knowledge (trends) to stimulate wisdom. As in the ITIL DIKW (Data-Information-Knowledge-Wisdom) model [12], that should be the daily quest for making informed decisions, including risks to be identified, managed and possibly foreseen in a project.

" Balance is not something you find; it's something you create."
(Jana Kingsford)

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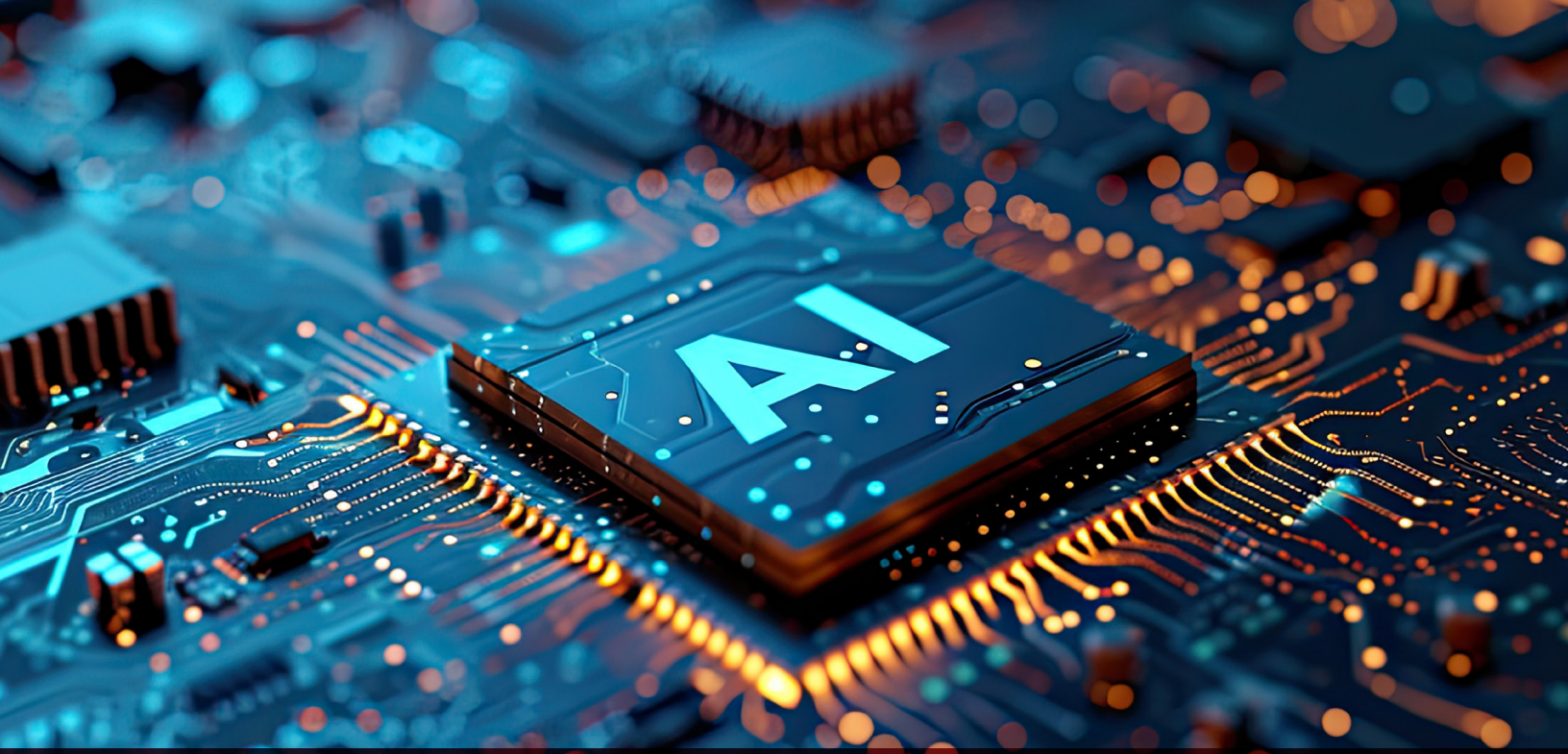
[11] CEPAS, ICT Product and Service Measurement Specialist, URL: https://shorturl.at/uEkHQ

[12] OGC, ITIL v3 2011, Service Strategy, 2011

ABOUT THE AUTHOR

Luigi Buglione is a Measurement & Process Improvement Specialist at DXC Technology in Rome/Italy. Luigi is currently the IFPUG Secretary and Director for Universities (previously Director for Conference & Education, 2013-19; Sizing & International Standards, 2019-22; Non-Functional Standards Committee, 2022-23), ISBSG VP and President of GUFPI-ISMA. He is a regular speaker at international conferences on Software/Service Measurement, Process Improvement and Quality and is actively part of international and national technical associations on such issues. He is also an ITIL4 and DevOps trainer. He achieved several certifications (including IFPUG CFPS [FPA], CSS [SNAP] and CSMS and COSMIC CCFL for the Software Measurement side) and received a Ph.D. in MIS and a degree cum laude in Economics. For further information, contact: @lbu_measure.



AI FOR FUNCTIONAL SIZING: PENDING THREAT, A FUTURE FAD, OR HARMLESS HOAX?

By: **Joe Schofield**

The proliferation of artificial intelligence (AI) demands the attention of organizations and individuals, particularly those in the technology world. Identifying sectors of our economies and personal lives that are immune to forthcoming changes triggered by AI is becoming increasingly challenging. Depending on one's perspective, emotions range from euphoric anticipation to trepidation. Applying the effects of AI to software development and measurement may expose vulnerability and induce a modicum of anxiety.

Twelve years ago, this author's article in *MetricViews* advocated for the necessity of certified function point professionals.[1] Re-examination of that earlier assertion, given the advances in AI, might result in a very different answer today. But before we can assess the need for certified specialists, it is worthwhile to clarify AI's rapidly evolving state today. Keep in mind that the propagation of AI's capabilities and application domains are rapidly expanding. The table below evidences that AI infiltration is faster than any of today's widely adopted technologies. But first, let's review how AI is depicted. In general, AI is the application of historically human intelligence for decision-making, speech recognition, and language translation using natural language processing, machine learning, and robotics. Navigation systems, voice authentication, and interactive voice language interpretation are respective examples of noted applications.[2] The desired outcomes of AI introduction are cost savings, productivity increases and consistent and improved client engagements.

Many of the most recognized names in technology dominate the AI chip market, including NVIDIA, AMD, Intel, Alphabet, Apple, Amazon, Microsoft, and Tesla. Most of these are clients of Taiwan Semiconductor Manufacturing (TSCM). TSCM produces the semiconductors using advanced lithography to produce about 90% of AI chips. As a foundry, TSCM enables its clients to scale by manufacturing chips designed by their clients but does not design the chip itself.[3] Integrated device manufacturers (IDMs) like Intel and Samsung design *and* manufacture their chips.

The speed of AI adoption compounds its interest; its popularity increasingly attracts new users similar to a black hole's gravitational pull absorbing everything around it, including light.[4] The table below captures well-known technologies and how quickly they were assimilated.[5]

TECHNOLOGY/ PRODUCT	TIME	USAGE/USERS
ChatGPT	2 months	100 million globally
TikTok	8 months	50 million globally
Facebook	3 years	50 million globally
Smartphones	10 years	as high as 80% in countries
Internet	~20 years	50% globally
Electric Vehicles	10 years	10% globally
Television	by 1950	9% US households
Television	by 1959	85.9% US households[6]

Given that brief and high-level overview of AI, a more pertinent question for those in the functional measurement community might be, *"Is there an imminent threat of AI usage replacing the human skills for counting function points?"*

Given the evidenced rapid expansion of AI in power and application, answering that question would be minimally speculative and potentially foolhardy. However, answers can be proffered to ascertain a sense of the applicability of AI regarding functional sizing. For example, in January 2025, ChatGPT was asked:[7]

REQUESTED TASK	CHATGPT RESPONSE INCLUDED . . .
Using IFPUG's ISO standard 20296, please count the number of function points on the joejr.com homepage	Describing how function points are counted. First, the five function types were defined. To its credit, ChatGPT correctly noted the three levels of complexity—low, average and high—associated with each function type and their varying weights. ChatGPT offered four steps for determining the functional size, or more correctly, the unadjusted function points. As part of the next steps, ChatGPT offered assistance in further analysis based on more specifics given that the tool could not (even estimate) the count in "real-time." This response provided a low degree of satisfaction.
A slightly more sophisticated, but still relatively simple task was posed as follows: *Using IFPUG's ISO standard 20296, please count the number of function points on PayPal's All Reports option*	Stating that the analysis started but ended with "something went wrong . . . please contact our support center." This response provided a low degree of satisfaction.
A more difficult task was posed: *Using IFPUG's ISO standard 20296, please count the number of function points on IFPUG's homepage @ifpug.org*	Providing a general description of "how to" determine a function point count. This response ended with, "For a precise evaluation, it's recommended to consult with a Certified Function Point Specialist (CFPS) . . ." This response provided low satisfaction while providing guidance on contacting a CFPS. I suppose IFPUG members can take some solace in this response.
Unsure if ChatGPT had a personal preference for functional sizing, this request shifted focus to the COSMIC approach and its website. *Using COSMIC's ISO standard 14143, please count the number of function points on COSMIC's homepage @ cosmic-sizing.org*	Overviewing for determining such a count, including Functional User Requirements, Base Functional Components and Data Movements. Ultimately, I was referred to the COSMIC website. This response provided a *low* degree of satisfaction.
This next request incorporated Software Non-Functional Assessment Process (SNAP) counts. *Using IFPUG's SNAP standard in ISO/IEC/IEEE 32430:2025, help me understand how many SNAP points are part of the webpage joejr.com*	Identifying six non-functional attributes and four steps for assessing SNAP points and the need for tools for detailed analysis. After a follow-up response to "proceed," key features of the website were identified, and the same six non-functional attributes were repeated from the initial inquiry. The response noted a likely modest number of SNAP points due to the "straightforward design and functionality" nature of the site. This response provided a moderate degree of satisfaction, considering the subtle compliment associated with the website.[8]

Given the responses above, one can only conclude that no imminent threat exists that function size measurement will soon be supplanted by AI analytical engines, certainly not by the ChatGPT chatbot. The same conclusion applies to AI of a non-functional size. Both conclusions are relevant to the AI engine in question, and as researchers often say, "more research is warranted."

A second caveat deserves mentioning. The term "imminent" may itself contribute ambiguity to any reliable conclusion; that is, how fast or soon is "imminent?" For instance, the CDC 6600 is generally considered the first supercomputer. It was the world's faster computer until 1969, operating at 3 MFLOPs. But, the passage of time casts a shadow on all things tech. Compare the 6600's performance to the world's fastest supercomputer today—El Capitan's (the supercomputer, not the "rock" in Yosemite) peak ability to operate at 2.79 exaFLOPs.[9] The difference in performance is roughly 2/3 (106) or 2/3 (1,000,000) or (again) roughly 667,000 times faster.[10] Imminent in the supercomputer domain has shrunk by 667,000 times in just the last 55 years. Thus, the accelerated advancement of AI may render any implied imminency useless. Stated in another way, the possibility of AI tackling the determination of function sizing could happen before this article is published, though the risk of that may be quite low.

Not all AI-related emergent threats can be disregarded. Some of AI's most rapidly nascent aspects include machine learning and robotics. The robotics market is projected to increase six-fold in the next five years. Given the algorithmic nature of unadjusted function points and SNAP, the power of AI to apply natural language processing, and the proclivity of growing acceptance of AI in the workplace, robotics could soon play a role. First as an assistant and not much thereafter, as the lead, a robotic presence could assist with:

- extracting requirements from mounds of existing documentation,
- developing questions to fill suspected gaps in understanding,
- using natural language interfacing to acquire responses,
- identifying anomalies in responses,
- resolving those anomalies,
- developing the use cases, delivering a software solution, and
- performing functional sizing.

ChatGPT generated the following image with a request to ChatGPT: "Please create an image of a human-like robot counting lines of code." See copyright note.[11] Hardly implausible, companies have been generating unadjusted function point counts for years from code.[12] This approach does not use the crude practice known as "backfiring" but instead its analytic engine. Many of today's software solutions are written in different languages and likely have redundant and unused features. Thus, the preference for measuring requirements-driven functionality differs from that of

delivered software. Closing the gap on the differences would seem achievable, and the rules-based nature of the underlying algorithms would seem ideally suited to AI exploitation.

In summary, AI has not yet nullified the need for competent software measurement professions. Regardless of your standard of choice, the nature of function point analysis is ripe for absorption into the AI world. Robots, especially human-like (humanoids), could play an important role, initially as an assistant or partner with another "set of eyes" during measurement processes. That time will likely to be sooner than many in our community might desire. The age-old adage of machines freeing people to do higher-level or "other work" may or may not hold true in this case. Not to dabble into another controversy, but a robot wouldn't be likely to put up a fuss if asked to "return to the office" rather than continuing to work from home. Attitudes about work need not bolster the transitioning of who does the work; AI is less likely to care.

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"After considering the extensive public comments and the current state of technological development, our conclusions turn on the centrality of human creativity to copyright," said Shira Perlmutter, Register of Copyrights and Director of the U.S. Copyright Office. "Where that creativity is expressed through the use of AI systems, it continues to enjoy protection. Extending protection to material whose expressive elements are determined by a machine, however, would undermine rather than further the constitutional goals of copyright."

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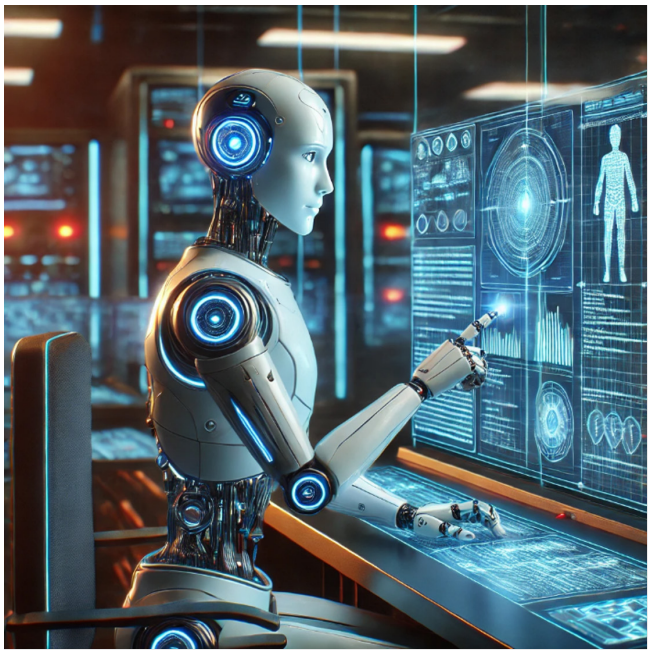

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Editor, Past President,
Honorary Fellow

BUSINESS APPLICATIONS COMMITTEE

By **Pierre Almen, Chair**

The Business Application Committee (BAC) is focusing on business use of project and application metrics. We are a team of six on this committee. Our newest team member is Fabiola Gatto from Brazil! Welcome!

Currently we are working on the following activities:

- IFPUG Application Development & Maintenance Benchmarking (AD&M) Certification
    - o We are currently reviewing the input from one benchmarking company to verify if it will be certified.
    - o We are searching for more benchmarking companies that could be interested in this certification. If you are working within such a company, why not apply for this certification so your customers will know that you deliver a high-quality benchmarking result that is useful for the customer organization in its improvement work?
- Coffee Talk: We are planning to have a panel talk about benchmarking of AD&M at the end of May with four panelists representing both suppliers and customers. More information will follow on the IFPUG website.
- CxO Survey: We have created a CxO Survey and successfully tested it on one manager. We will now spread it in the IFPUG community and later create a report based on the answers we receive.

We delivered in 2022 the report, "Analytics of the International Software Benchmarking Standards Group (ISBSG) Development and Enhancement Repository." If you have not read it yet, as an IFPUG member you can download it for free from the IFPUG website. We are now planning to create one more report based on the current ISBSG repository (it is updated yearly with new project data) and to hopefully include analysis of projects measured with Simple Function Points.

If you find what we do interesting and challenging, we have an opening for one more member.

CERTIFICATION COMMITTEE

By **Daniel B. French, Chair**

The Certification Committee's mission is to:

- Support IFPUG members to take the CFPS/CFPP (IFPUG FP) and CSP/CSS (IFPUG SNAP) exams
- Assist IFPUG members in applying for the CFPS and CSS CEP (Certification Extension Program) to maintain certifications without retaking the certification exam and evaluating their submissions for extension approval.

In the past six months there have been several important projects that the Certification Committee has completed:

- Chinese translations of the CPM, APM and the CFPS and CSS exams
- Translation of the CSS exam into Italian
- Randomization of the questions in the English and Italian versions of the CFPS exam. Other languages will also be randomized by year end.
- Complete the certification of our first function point counting software, Cadence by LogApps, as Type 2 software under our newly reinstated software certification process. Congratulations to Ed Spriggs, Kevin McKeel and the entire LogApps team.

The Evaluation is also nearly completed on a second software certification candidate and the results will be announced upon the completion of the analysis.

Work continues assisting the Non-Functional Software Standards Committee (NFSSC) in developing the training materials for the CSP/CSS certifications.

The committee is working with the Simple Function Point task force led by Dr. Roberto Meli on the certification exam and training materials for Simple Function Point (SFP) measurement. If you are a CFPS interested in participating on the task force please contact Dan French, Certification Committee chairman, at dfrench@cobec.com. This is open to all CPFS, membership on the certification or other committee is not required.

Finally, I would like to express my appreciation for all the members of the committee and their dedication, competence, professionalism and great contributions to IFPUG!

COMMUNICATIONS AND MARKETING COMMITTEE

By **Julián Gómez, Chair**

At the heart of our mission is the belief that communication is more than just sharing information—it's about building connections, inspiring confidence in measurement practices, and positioning IFPUG as a global reference. With this in

mind, the Communications & Marketing Committee has focused on strategic initiatives that amplify our presence and reinforce the value we bring to the software industry.

One of our most significant accomplishments in recent months was the release of the *Market Research Report* developed in collaboration with LedaMC/Quanter. This comprehensive study—available at ifpug.org/ifpug-quanter—delivers a clear snapshot of the current state of the function point and software measurement market, both regionally and globally. By analyzing data from a broad spectrum of organizations and professionals, the report highlights evolving trends, market demands, and the growing need for standardized metrics in agile and hybrid environments. This kind of research is essential not only to validate the continued relevance of Function Point Analysis but also to guide strategic decision-making for companies investing in software measurement capabilities.

In parallel, we were proud to launch the *Capers Jones Series: Using Artificial Intelligence (AI) for Large Software Engineering Projects*. This curated collection of Capers Jones' writings—now featured on the IFPUG website at ifpug.org/2025/03/21/capers-series-announcement—preserves and promotes the wisdom of a pioneer whose work continues to shape our understanding of productivity, quality, and estimation in software development. The response from the community has been overwhelmingly positive, and we encourage all members, regardless of experience level, to explore this invaluable resource. We are sincerely grateful to Capers Jones for granting IFPUG the opportunity to publish this series and share his invaluable work with our community.

We would also like to take this opportunity to recognize and thank Joe Schofield for his exemplary work. Joe played a key role as editor of the Capers Jones series, ensuring the quality, clarity, and impact of each published piece. In addition, his leadership as editor of *Metric Views* has been instrumental in maintaining the high editorial standards of our flagship publication. His dedication, insight, and tireless effort are deeply appreciated by the entire committee and the IFPUG community.

Looking ahead, the Communications & Marketing Committee will continue to focus on initiatives that educate, engage, and connect. We're excited about what's coming and are grateful for the support of our members around the world.

EVENTS COMMITTEE

By **Kiran Yeole, Chair**

The Events Committee continues its objective of bringing together experts, practitioners, and thought leaders from around the world to engage in meaningful dialogue and share innovative practices in software measurement. Over the past six months, we have successfully organized key events that enriched the IFPUG community and advanced the field of software metrics and analysis.

International Software Metrics & Analysis (ISMA) Conferences:

Our most recent major event was the ISMA 2025 Virtual Conference, held on April 11, 2025. This fully virtual event brought together global attendees for a half-day of engaging presentations and practical insights.

The conference featured four impactful sessions. Each session provided attendees with actionable knowledge to apply in their organizations, while also offering opportunities to earn CFPS and CSS CEP extension credits, along with other professional development credits. ISMA 2025 was a testament to IFPUG's continued leadership in fostering professional growth and advancing measurement excellence.

We are now gearing up for the **upcoming "ISMA 2025 Hybrid" conference**. Stay tuned for further details on the IFPUG website.

IFPUG Knowledge Café Series:

The IFPUG Knowledge Café Series remains a key platform for collaborative learning and community engagement. It offers members and guests the opportunity to exchange ideas, showcase innovations, and learn from real-world experiences in software measurement.

The IFPUG and Events Committee have launched an initiative to host webinars in local languages to connect with a broader audience by overcoming language barriers. As part of these efforts, two successful webinars were recently delivered in Italian, and one upcoming webinar is planned in Japanese. We are confident that this initiative will enhance the community engagement and significantly improve the learning experiences across diverse regions.

Recent Webinars:

1. **Cinzia Ferrero** and **Fabrizio Di Cola** presented the topic **"The IFPUG CSS/CSP Exam in Italian"** and provided the detailed information about CSS certification exam which was recently launched in Italian. This webinar was conducted in Italian.

2. **Sushmitha Anantha and Kripashankar Sharma** presented the topic **"Evaluating Agile Metrics: A Product Owner's Reflections."** In this webinar, participants learned how to view agile metrics from a product owner's perspective to enhance perceived value of delivery and gained insights into using real-time metrics to track project progress, make informed decisions, and identifying areas for improvement.

3. **Marcello Sgamma** presented the topic **"System Time and Other Platform Data in Function Point Analysis."** This was our very first webinar in local language and was conducted in Italian. This webinar provided some real-time examples and guidance on how to evaluate

platform data.

For more information on these webinars and recordings, you can visit the IFPUG website.

Upcoming webinars:

1. **May 22, 2025: Dr. Roberto Meli (CEO of DPO Srl-Italy)** will be presenting the topic **"Software Reuse Measurement in a Contractual Context"**. In this webinar, the speaker will cover the measurement of functional and technical reuse in software applications and explain a cost model considering the reuse in contractual context.

2. **June 2025:** A webinar is being planned in the Japanese language for the measurement community in Japan. We will notify everyone via the IFPUG website and social media once details are finalized.

We continue to provide platforms such as Coffee Talks and ISMA conferences for meaningful conversations and knowledge sharing. If you have suggestions for future topics or speakers, or are interested in volunteering, we welcome your ideas and involvement.

Please reach out to us at **pec@ifpug.org** or submit a volunteer form through the IFPUG website at https://ifpug.org/about-us/committees/volunteer.

FORECAST AND SOFTWARE ESTIMATING COMMITTEE

By **Christine Green, Chair**

The Forecast and Software Estimating Committee continues its work to reinforce IFPUG's position as a trusted source for practical and reliable software estimation guidance. A key milestone has been the initiation of a real-world estimation pilot, designed to test a structured estimation framework. The goal is to validate the framework's usability and effectiveness across a range of project types and delivery models.

As part of our roadmap, a resource evaluation and reward model is being finalized and is expected to be released within the next month or two. This initiative will recognize contributors and provide incentives to support broader involvement in estimation-related work.

Next steps include analyzing pilot results, refining the estimation framework, and preparing supporting materials for education, communication, and adoption—both within IFPUG and in collaboration with external stakeholders.

FUNCTIONAL SIZING STANDARDS COMMITTEE

By **Esteban Sanchez, Chair**

The Functional Sizing Standards Committee (FSSC) supports IFPUG's community in the application of the Counting Practices Manuals (CPMs) for both simple and traditional function points. Our team works with passion and commitment to maintain and augment the guidelines in the manuals, ensuring a consistent application of the standards around the world. While technology continues to constantly evolve, we follow closely by publishing new guidelines and examples to keep the function points methodology at a state of the art.

Check the IFPUG Learning Center for our new paper on the topic of "System Time and Platform Data"; you will enjoy reading about function points in the context of network data (e.g. IP address, MAC Address), system identification data (e.g. OS Type, OS Name and Version) and any other data maintained within the Operating System (OS) or Runtime Environment. This paper highlights the results of an entire year of research and discussion at the FSSC.

Our focus now is on the topic of logical files identification. We understand that this is one of the most technical aspects of the CPM/SPM, especially when it comes to evaluating the rules for dependency/independency and mandatory/optional relationships between data entities. We are in the process of developing detailed, example-based guidelines that will make this topic a lot more "palatable." Stay tuned for the release of this paper later this year!

Some other topics we have on the back burner:

- Mobile Applications Case Study: Applying FPA to an application that runs on a mobile device with a backend on the cloud. This case study illustrates an entire FP count, including a deep analysis (DETs, RETs and FTRs) of each elementary process and logical file.

- Robotics Process Automation (RPA): This document explores the fundamental concepts of RPA, considers how FPA concepts can be applied to RPA, and closes by presenting various examples in which FPA counting techniques are applied and explained.

- Early Function Point Sizing: Updates to U-Tip #3 "Early Function Point Analysis and Consistent Cost Estimating" to include IFPUG Simple Function Points (SFP).

The FSSC is looking for volunteers. We are thrilled to announce our newest addition to the team, Diana Marano from Italy; she brings lots of experience on the application of FPs in public contracts. If you want to be part of the team

that is making all these great things possible, just get in touch with us. Please complete the IFPUG Volunteer Form on the IFPUG website: https://ifpug.org/about-us/committees/volunteer.

Our mission is to serve IFPUG and its members and we love to innovate. If you have feedback or suggestions for new projects, we definitely want to talk to you. Please kindly submit your comments to esanchez@galorath.com.

INDUSTRY STANDARDS COMMITTEE

By **Carol Dekkers, Chair**

Measure Twice, Cut Once – IFPUG's Industry Standards and Resources Can be the Key to YOUR Company's Success!

This committee update is short in this *MetricViews* but suffice to say our members (Carol, Steve, Talmon) remain committed and engaged with Industry Standards. The SNAP Standard was formally finalized and published in February 2025 as ISO/IEC/IEEE 32430 Software Non-functional Size Measurement!

In the United States, IFPUG remains an official member of the International Software Organization's INCITS SC7 working group. As fiscally responsible IFPUG leaders, we do not attend international meetings going forward, UNLESS there is active IFPUG-related software standards development.

We remain cognizant and engaged with the Boehm Center for Software and Systems Engineering (Boehm CSSE) and are awaiting the release of the group's COCOMO III.

In addition, I was re-elected to the International Cost Estimating and Analysis Association (ICEAA) board of directors for which term will start in July 2025, so Industry Standards Committee (ISC) will be looking for opportunities for IFPUG to partner/cooperate with ICEAA.

We would love to receive comments or feedback from YOU, our members about where you might see potential synergy with IFPUG—do you know of standards or organizations that could benefit from our outreach? Are there opportunities for our committee to speak or present or write articles in related areas?

Please respond and help us expand the membership and influence and knowledge sharing about IFPUG to the world of software. Your ideas are welcome and encouraged. Please send me an email: iscchair@ifpug.org.

Thank you for your IFPUG membership and your support!

Sincerely,
Carol Dekkers, CFPS (Fellow)

INTERNATIONAL MEMBERSHIP COMMITTEE

By **Paola Bilia, Chair**

It has been a year since I had the privilege of leading the International Membership Committee (IMC). The group consists of 10 volunteers from different countries and cultures, united by the belief that the spread of software measurement methodologies is crucial for the Information Technology sector.

In the committee, some members are designated as "Point of Contact" (POC) for their country. Each POC offers support in their native language, responding to queries related to procedures and deadlines. This role facilitates communication and integration of various local needs within the committee.

Additionally, the committee aims to identify and respond to the "hidden needs" of various countries, promoting the dissemination of measurement methodologies in line with ICT sector developments, including AI, which with its impact is revolutionizing the world. And it is precisely the inclusion of different cultural perspectives, one of the essential points to better understand needs and formulate adequate strategies, that can meet the need to estimate and measure phenomena in the context of contributing to continuous improvement.

NON-FUNCTIONAL SOFTWARE STANDARDS COMMITTEE

By **Fabrizio Di Cola, Chair**

The IFPUG Non-functional Sizing Standards Committee (NFSSC) continues its activities to explain to the industry what SNAP is, the benefits from its use, how to measure certain sizing scenarios, and to train future trainers on SNAP.

Do you want to use SNAP in contracts and need a certification that has a renewal process, like the CFPS CEP? This way you can be sure that you have staff properly trained and ready to size software, corresponding to software non-functional user requirements, measured by SNAP. IFPUG launched the Certified SNAP Specialist (CSS) certification, which complements the existing Certified SNAP Practitioner (CSP) certification. This will help you introduce non-functional measurement from a contractual perspective as well. What is new in this latest period is that the CSS certification and APM have been translated into Italian, expanding this possibility to native speakers of Italian.

Taking the CSS certification now could be an advantage for all measurers in a market where certifications are a MUST to work in certain contracts and where the number of CFPS is very high.

We are getting the translation of the APM into Spanish underway!

To maintain CSS certification we periodically prepare, as NFSSC, valid CEP presentations.

- Measuring NFRs in Application Security Functionalities, presented at the last IFPUG conference, ISMA 2025
- How to Measure the User Interface with IFPUG SNAP, which will be presented in a few weeks for an Italian-language event

We have released and are working on publishing a series of examples of SNAP uses that will concretely help organizations complement IFPUG function points by measuring the non-functional dimension.

- Examples of sub-category 1.2 with measurements made in the field.
- Examples of using sub-category 1.5--especially in the context of configurable software (like SAP, oracle application etc.).
- Using Gantt Charts to Track SNAP Work Effort (already released).
- Examples of when to consider a sub-category in ADD, CHG, DEL in an enhancement project.

To evolve the methodology, if necessary, we need your SNAP measurement data. So, we strongly encourage you to populate the ISBSG database with data on SNAP or contact us if you prefer to make it available in other forms for the NFSSC. We will continue to enrich this list.

We are also beginning work to create a structured way to estimate the number of SPs, both in the early stages of a project and to make a quick estimate of the number of SPs in some circumstances.

Other important activities either completed or nearly completed during this period include the following:

- The writing of a new white paper that will give guidance on how to apply SNAP to applications built with microservice architectures.
- Work on a white paper on measuring security requirements with SNAP has been completed and will be released soon.
- The growing use of our first five YouTube videos overviewing the SNAP method. We have 1,235 views as of this writing. We encourage you to access these by either searching YouTube by "IFPUG SNAP," by "sizing non-functional software," or something similar. Please "Like" them if you do.

We are also working to explore another important benefit of using SNAP: the measurement of quality indices such as technical debt. Now is the time to measure this as well to enable companies to manage quality in a systematic way.

Don't be afraid of the cost of introducing SNAP to your company! There are already large industries that are going this route and are touching upon the many benefits of this route, not only regarding better effort estimation and the ability to measure non-functional baseline, but also the use of SNAP sub-categories as a communication language between business areas and customers. On this point, we invite you to see the presentation made at ISMA 22 "Evaluating a Change in Software Architecture: a SNAP Approach."

The NFSSC allows you to be in contact with some of the best professionals in the measurement of non-functional requirements for software, know the background of the choices you will later apply in your organizations, or speak in universities. The measurement of non-functional dimensionality in software is absolutely one of the hottest topics in the industry in recent years. For those interested in working with us on a groundbreaking topic such as non-functional dimension measurement with SNAP, please send in your application by going to https://ifpug.org/about-us/committees/volunteer.

If you would like to contact us, you can do so at nfssc@ifpug.org.

SIMPLE FUNCTION POINT TASK FORCE

By **Roberto Meli, Chair**

The Simple Function Point Task Force is working on the three following streams:

- Documentation Translations

The SPM manual, the Quick Reference and the Excel tool have been translated in Portuguese, Korean, Chinese and Spanish. The documents were sent to the IFPUG Board for the final approval and then they will be published on the IFPUG website. The Italian and Japanese translations are the next to come.

- Certification Exam

The Certification Committee is collecting volunteers for the specific task of defining and making operational a certification process, a set of related standards and contractual agreements for the delivering of the Practitioner's Certification Exam. The minimum number of volunteers has been achieved and the work has started. New volunteers are welcome and will be eventually included in the team on the run.

- ISBSG Data Base

A first set of 50 SFP data were sent to the ISBSG office using the standard form. As long as the SFP measurement method is spreading in the market we expect a larger contribution to the ISBSG data base. An ISBSG webinar on how to use the traditional IFPUG FPA data, present in the actual version of the DB, adapted to the Simple Function Points is on the way.

TRAINING PROGRAM TASK FORCE

By **Christine Green, Chair**

The Training Program Taskforce continues to make steady progress in designing the framework for IFPUG's future training offerings. One of the key deliverables currently under development is "IFPUG in a Box," a concise and engaging introductory module that presents IFPUG as an organization—its mission, structure, and core activities. This module is intended to serve as a foundational entry point for new members, or others with interest in IFPUG. It will be developed as a video, but the slides will also be made available for reuse for members that need to introduce IFPUG to their organization.

In parallel, the taskforce is working on outlining a modular training roadmap that aligns with existing IFPUG certifications and supports practical application of the sizing standards. This will ensure consistency and coherence across all training efforts.

Looking ahead, our next steps include finalizing and piloting the "IFPUG in a Box" module, defining priorities and structure for the full set of training modules, and initiating conversations with training suppliers around the globe who currently offer—or are interested in offering—courses based on IFPUG's sizing standards and related content. These collaborations will help broaden IFPUG's reach and ensure global accessibility of high-quality training.

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