SAP GUI vs. SAP Fiori: A Brief Practical Comparison

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Abstract

Many SAP users express frustration with the user interface and the complexity of data entry. Over the years, SAP has implemented various approaches to enhance user interaction and the overall user experience of its software products. This raises the question of whether these intentions truly address the users' concerns. Therefore, this paper compares the SAP GUI and SAP Fiori, highlighting the respective advantages and disadvantages of both frontends. The analysis shows that SAP Fiori offers significant benefits, especially for newly developed applications. In particular, SAP Fiori visualizes the relationships between business process steps – previously represented as separate transactions – by clearly depicting the underlying business process and its associated document flow, and it offers more effective error handling functionalities. These features can be especially valuable for first-time users and in university education, as it helps users better understand complex business processes. However, professional users with years of experience may prefer to continue using the SAP GUI, as they are accustomed to its function-oriented, transactional concept and familiar design.

Keywords

SAP GUI, SAP S/4HANA, SAP Fiori, User Experience, User Interaction, UX, UI

1. Introduction

SAP and its ERP systems have been an integral part of university curricula and training programs for decades, ever since the company was founded in 1972. However, conveying knowledge about business processes and how they are mapped and executed within SAP systems has always been a challenge [1]. To address this, SAP has continuously sought to improve the usability and user experience of its applications, aiming to make their often complex functionalities more accessible and understandable.

SAP's most recent initiative in this regard is the introduction of its modern user interface, SAP Fiori, which was launched in 2013 as a replacement for the traditional SAP GUI [2]. SAP Fiori fundamentally shifted the usage concept from a function-oriented to a role-based approach, utilizing app tiles and other user-friendly elements [3]. Designed specifically as the new user frontend for SAP's latest ERP software version, SAP S/4HANA (introduced in 2015) [4], SAP Fiori is intended to make SAP systems significantly more intuitive and better aligned with contemporary user expectations [5]. Moreover, SAP aims to reduce the complexity of traditional SAP transactions and enable faster, more efficient, and less error-prone processing of business processes [6].

There are many similar comparisons of SAP GUI and SAP Fiori available online, typically published by SAP consulting firms and often based on product specifications provided by SAP Marketing or Product Management [7]. These comparisons usually highlight the conceptual differences but rarely take into account the practical characteristics of each interface. As a result, they offer limited value when it comes to evaluating whether the real needs of first-time SAP users are truly met. Consequently, this paper will discuss and compare the pros and cons of both user interfaces from a practical perspective, aiming to support an informed decision between the two technologies.

Other studies suggest that usability perception depends on software customization during the implementation phase as well as the quality of end-user training, which means that both the structure of training sessions and the competence of trainers can impact user acceptance of a software solution [8]. Consequently, preconfigured and inflexible user interfaces, along with overly complex explanations during training, are less advantageous for inexperienced users and their comprehension. Therefore, this investigation will focus on functions such as help features and simple business process representations, which specifically support the initial learning process of first-time SAP users and have not yet been reported elsewhere. These aspects play an important role in university education, as they help establish usability-based user acceptance and strengthen users' understanding. Nevertheless, this paper does not aim to provide a comprehensive overview of all new SAP Fiori functions [9].

This paper is structured as follows: First, the different versions of the most commonly used SAP GUIs for SAP's ERP systems will be explained. This is followed by an in-depth analysis of the help functions provided by SAP GUI and SAP Fiori, which can be particularly helpful when using new and complex software products. Sub-

sequently, selected application functions will be considered, with a focus on user experience and interaction. Finally, the discussion concludes with a brief summary.

This study is based on empirical investigations conducted from March to July 2025 using the SAP S/4HANA 2022 release.

2. SAP GUI Versions

SAP has developed and provided up to 30 different GUIs for its various software products over time. The most popular is the classic SAP GUI for Windows, which has been in use with SAP R/3 since the early 1990s. An exclusive GUI version for Apple Macintosh computers was developed in the late 1990s, but it was never officially released. The official SAP GUI for Java, designed for non-Windows operating systems such as Mac OS X (today macOS), Linux, and others, was introduced in 2007 [10]. The first web-based SAP GUI for HTML, based on the Internet Transaction Server (ITS), was released in 2001 and enabled access to SAP R/3 via a web browser. The HTML GUI can be launched from the Windows GUI using the transaction code '/nWEBGUI'. However, the HTML GUI does not offer the full functionality and user experience of the Windows GUI, as certain features and integrations are limited or unavailable in the browser-based version.

As previously mentioned, SAP Fiori was introduced in 2013 and is built on the SAPUI5 UI framework, which utilizes the web standards HTML5, CSS, and JavaScript. In contrast to the classic client-server model, SAP Fiori includes, in addition to the backend server, a frontend server that provides the user interface for the browser. The business logic remains in the backend, and communication takes place via OData services. SAP Fiori can be initiated from the traditional GUIs via transaction code /n/UI2/FLP.

3. Help Functions

SAP has managed to develop several highly successful software products in the past. Beyond their extensive functional scope, there are several key factors that have contributed to this success. Some general aspects of using a software product can make for a pleasant user experience. On the other hand, there are also common pitfalls that users may find dissatisfying when they encounter them.

Almost as a matter of course, a simple hourglass icon indicates system activity and wait times, preventing users from clicking buttons or links multiple times. The hourglass was introduced by SAP with the graphical user interface as early as the early 1990s.

Another important yet often underestimated feature is the help function that supports users whenever they encounter uncertainty or need clarification. Nowadays, this is typically achieved with an integrated help tool or a separate webpage that provides users with further information on particular fields or topics, as well as answers to their questions. An example is SAP, which provides its online help through the SAP Help Portal, accessible at help.sap.com.

Fig. 1 illustrates how the incorporated SAP F1 help appears in the SAP GUI. It is referred to as F1 help because an additional window – labeled "Performance Assistant" in this SAP version – opens when the cursor is placed in the relevant field (the plant field in this example) and the F1 key is pressed on the keyboard. Additionally, the F1 help can also be accessed in case of an error or warning message, although it may not provide additional information for every possible error or warning.

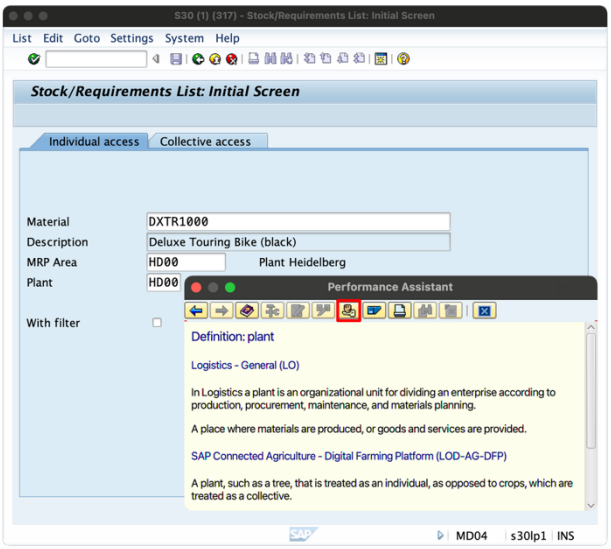


Fig. 1. Example of the help window displayed when accessing the SAP F1 help function, referred to as "Performance Assistant" [Screenshot from SAP S/4HANA, as of November 2025, © SAP SE. All rights reserved].

However, a feature within SAP that is probably not widely known is the ability to directly configure or change a missing or incorrect parameter. This can be done by navigating from the help window to the configuration site using the icon which displays a head/key symbol [see Fig. 1]. This function leads the user directly

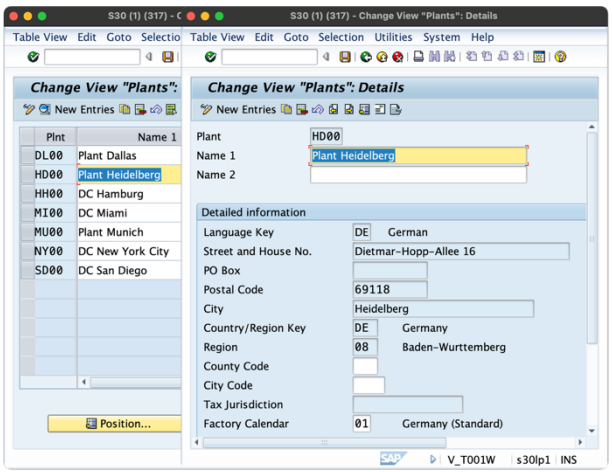


Fig. 2. Example of the windows that appear when navigating using the SAP F1 help function [Screenshot from SAP S/4HANA, as of November 2025, © SAP SE. All rights reserved].

to the location where a missing entry can be configured or a wrong specification can be corrected [Fig. 2].

This feature – which allows direct navigation to the configuration site of a parameter – is not always available and is probably seldom needed. However, it can be very useful for trainers or lecturers configuring specific areas of an SAP system in a training environment, or when something is missing, or an error occurs. Moreover, it demonstrates just how forward-thinking some of the SAP developers have been.

Fig. 3 illustrates the F1 help function similarly realized with SAP Fiori for this example.

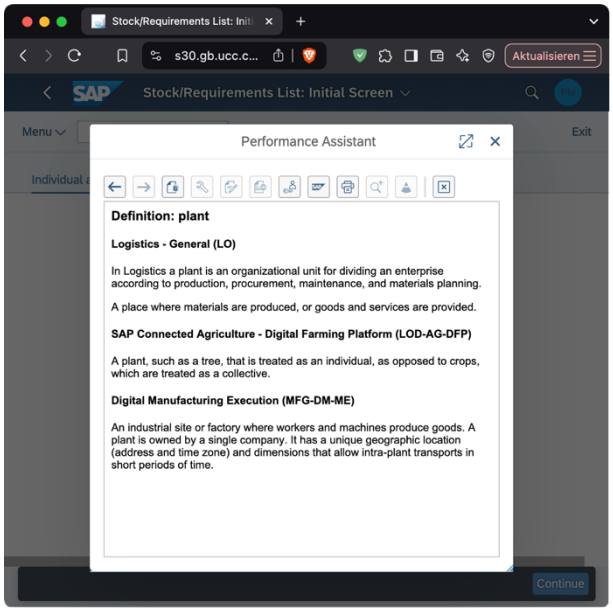
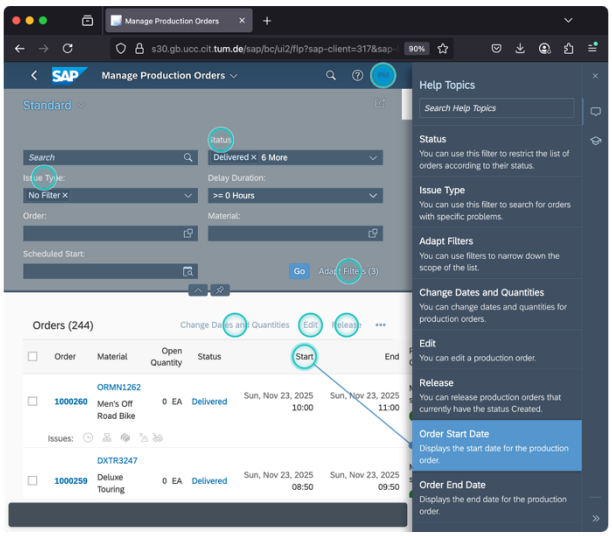


Fig. 3. Example of the F1 help window when accessed with SAP Fiori [Screenshot from SAP S/4HANA, as of November 2025, © SAP SE. All rights reserved].

The available functionality, including navigation to the configuration site, is identical to that in the SAP GUI, since both frontends essentially use the same underlying code for processing.



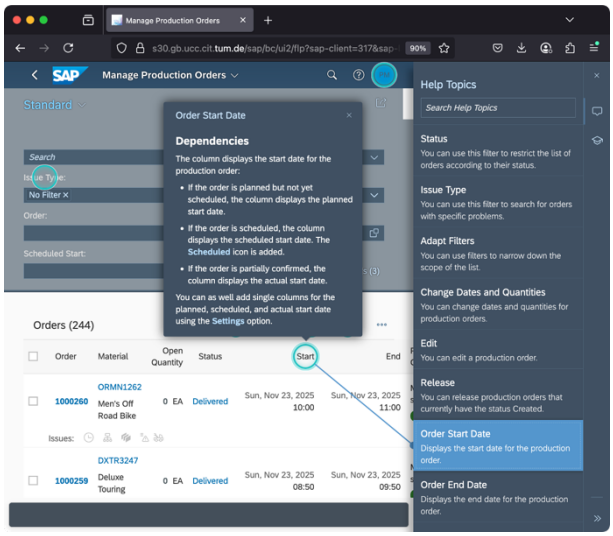


Fig. 5. Example of the new SAP Fiori F1 help function [Screenshot from SAP S/4HANA, as of November 2025, © SAP SE. All rights reserved].

A new and more advanced help feature is available in SAP Fiori, which can be especially beneficial for new SAP users. As shown in Fig. 4, when entering an app and pressing F1, an extended help sidebar appears on the right. This sidebar presents various help topics linked to specific fields, which are highlighted with blue circles. By hovering the mouse over these blue circles, users can access additional pop-up windows containing detailed information relevant to each field [Fig. 5]. This contextual help makes it easier for users to understand the application's features and functions more efficiently.

4. Application Functions

As stated above, the usability concept has been changed in SAP Fiori from function-oriented to role-based, which basically means that there are groupings of specific application functions (in the form of several tiles) that belong to a certain user role such as "Sales Representative". The SAP GUI user interaction was based on a tree structure (comparable to the sinistral tree of the Microsoft Windows Explorer), where functions have been grouped by application areas such as "Sales and Distribution" or "Materials Management" [see Fig. 6]. A specific function was selected by drill-down within the tree structure. In addition, it was possible to access a specific application function directly by entering a respective so-called transaction code in the OK-code field located in the upper left corner [Fig. 6]. A transaction code has been assigned to any application function, for instance '/nVA01' for transaction "Create Sales Order".

Considering the clarity of the different representations, the new concept of SAP Fiori might be advantageous for users having a certain professional role in a company related to the execution of up to about ten different business functions during daily work. Moreover, the application tiles used can be grouped and arranged user individually on the SAP Fiori desktop, whereas the

SAP GUI allows for the definition of favorite transactions located in the beginning of the tree structure instead [confer Fig. 6].

Regarding the design and look of the functions provided by the specific application tiles and transactions, the flat design of SAP Fiori apps seems to be not superior to the "old" transaction design of the SAP GUI, in particular when using the "Signature Design" screen theme provided in the GUI preferences (even compared to the "SAP Belize Deep" or any other appearance that can be chosen in the SAP Fiori settings). This will be rather obvious looking at the "Manage Business Partner" application as an example: Even though the SAP GUI transaction to maintain business partners is already quite complex, the SAP Fiori application seems to be even more perplexing. The application consists of a long list with dozens of information and data to be entered, and jump marks in form of tabstrips for specific topics can be used to directly navigate to the desired section of the list (such as address data or bank account information), making it difficult to visually recognize any of the information provided (especially for training classes). Hence, SAP Fiori offers no real advancement at this point and for all business applications.

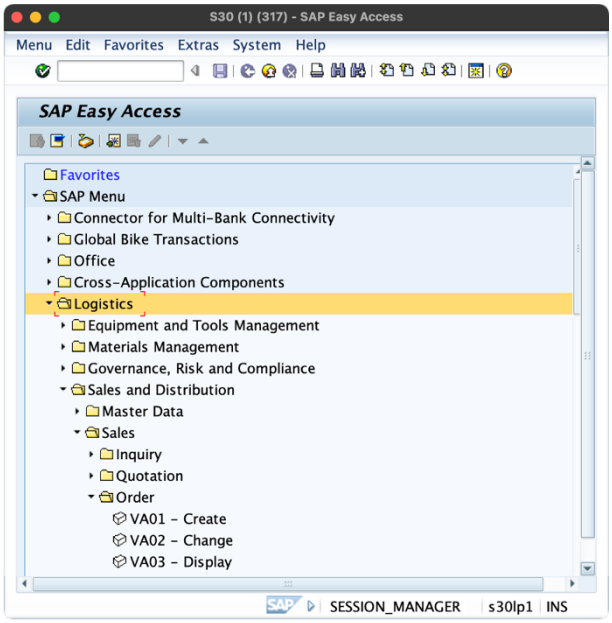


Fig. 6. Example of the SAP GUI frontend design [Screenshot from SAP S/4HANA, as of November 2025, © SAP SE. All rights reserved].

Sometimes, the new positioning and logic of buttons such as "Go", "Edit", "Create", "Save", or "Back" in SAP Fiori can be a bit confusing at first. However, button placement and behavior were not always consistent in the classic SAP GUI either, as these aspects were often determined by the individual developer. Only the logic for the "Back", "Exit", and "Cancel" buttons was implemented consistently across the SAP GUI.

Furthermore, not all applications or transactions have been newly developed for SAP Fiori or SAP S/4HANA. While several new SAP Fiori applications have been created, particularly for analytics and fact sheets, much of the underlying ABAP code has simply been transferred from SAP R/3 (specifically SAP ERP Central Component, SAP ECC) to SAP S/4HANA. For example, the "Create Sales Order" and "Monitor Stock / Requirements List" apps are essentially identical to their former SAP ECC counterparts. As a result, many of these transactions are displayed in SAP Fiori as HTML views, rather than as fully redesigned Fiori apps.

However, the main advantage of SAP Fiori is that it no longer requires a local SAP GUI installation. Instead, SAP Fiori applications run directly in a standard web browser, making them accessible from any device and operating system. While browser-based access was technically possible before using the SAP GUI for HTML, this earlier approach relied on the traditional, function-driven navigation and lacked the responsive design and modern user experience that SAP Fiori provides. With Fiori, users benefit from a device-independent interface that adapts seamlessly to different screen sizes.

The real improvement brought by SAP Fiori lies in newly developed applications such as "Track Sales Orders." With this app, users can not only view a graphical representation of the sales document flow, but also see the sequence and status of related FI (Financial Accounting) documents created throughout the order-to-cash process. This integrated overview and visualization make it easier to monitor and analyze the order fulfillment status and financial impact of sales orders directly compared to classic SAP GUI transactions [see Figs. 7, 8].

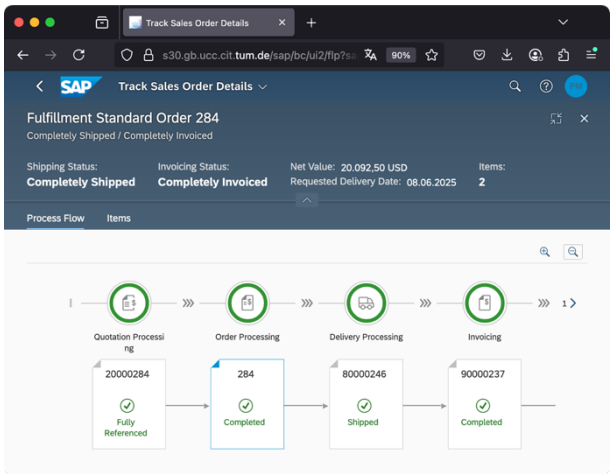


Fig. 7. Example of the SAP Fiori process flow [Screenshot from SAP S/4HANA, as of November 2025, © SAP SE. All rights reserved].

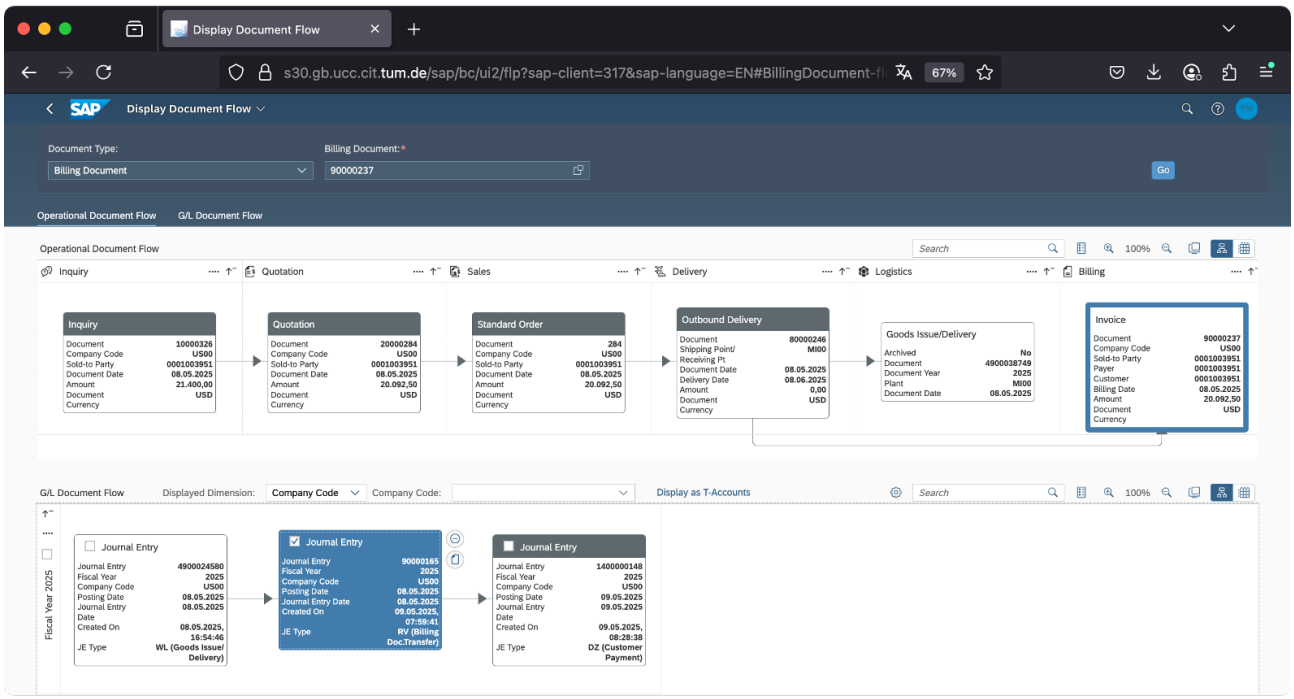


Fig. 8. Example of the SAP Fiori sales document flow with related FI documents [Screenshot from SAP S/4HANA, as of November 2025, © SAP SE. All rights reserved].

Another example is the extended error handling capabilities newly developed and provided with SAP Fiori. As shown in Fig. 9, the Sales Order Fulfillment Issues

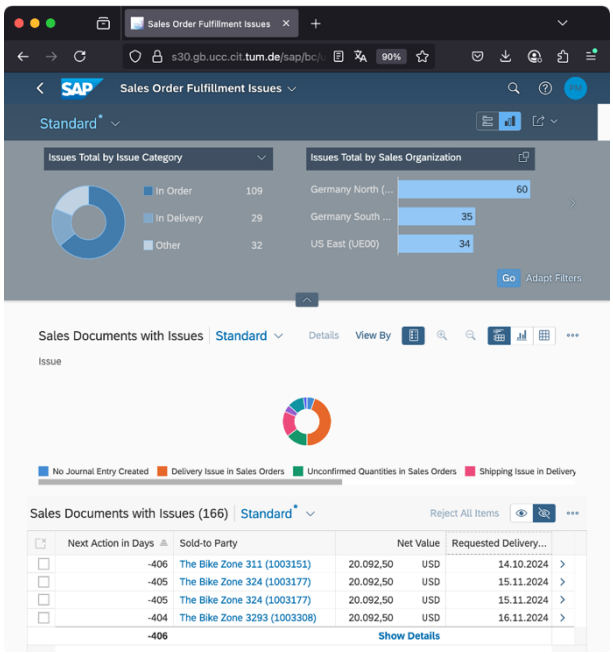


Fig. 9. Example of the SAP Fiori Sales Order Fulfillment Issues overview [Screenshot from SAP S/4HANA, as of November 2025, © SAP SE. All rights reserved].

application displays all sales documents with issues in sales orders, deliveries, and invoices – such as incomplete data or shipping problems. By selecting a specific issue, users can access detailed information, analyze the root cause, and directly correct the problem.

For a better understanding, the process flow is also visualized within the app. This visualization uses SAP Fiori's process flow control, which graphically represents the sequence and status of related documents and workflow steps [see Fig. 10]. It allows users to see the entire process path, including branching and pending steps, with interactive elements such as detailed popovers and status indicators. This helps users quickly identify where issues occur and facilitates efficient analysis and resolution directly within the application.

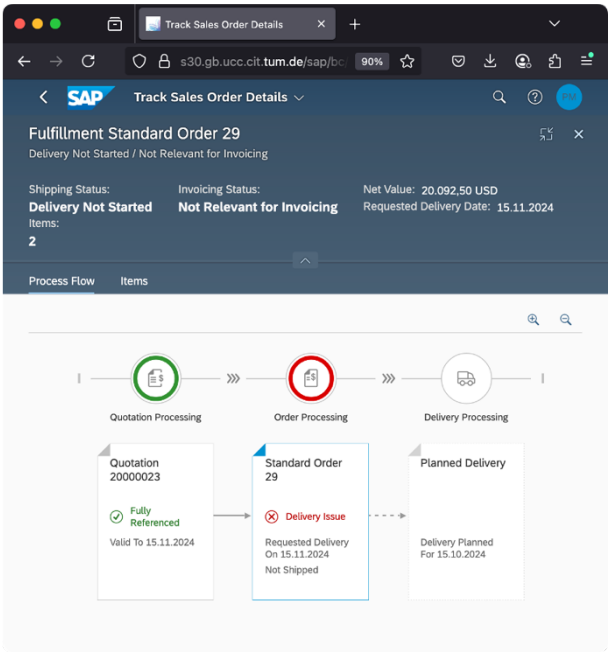


Fig. 10. Example of the SAP Fiori sales process flow and issue details [Screenshot from SAP S/4HANA, as of November 2025, © SAP SE. All rights reserved].

As a result, this application can be integrated into daily business operations even without a dedicated business monitoring concept or sophisticated process mining software. It helps save analysis time when a process gets stuck at some point in the business sequence, offering practical support for issue resolution within standard SAP Fiori capabilities.

When searching for transaction codes such as 'SPRO' or 'VA01' in SAP Fiori, the transactions appear with the familiar OK-code field in the upper left corner, allowing users to enter transaction codes just as they would in the classic SAP GUI [see Fig. 11]. At the time of publication, it remains unclear whether this is a specific characteristic of the SAP version supplied and hosted by the SAP UCC, or whether this feature is intentional and present in all currently available SAP S/4HANA versions. If it is generally available, it would seem to override some of the core logic and objectives of the SAP Fiori user experience. However, for the traditional SAP GUI user, this means that they can continue to start transactions using the transaction code as before.

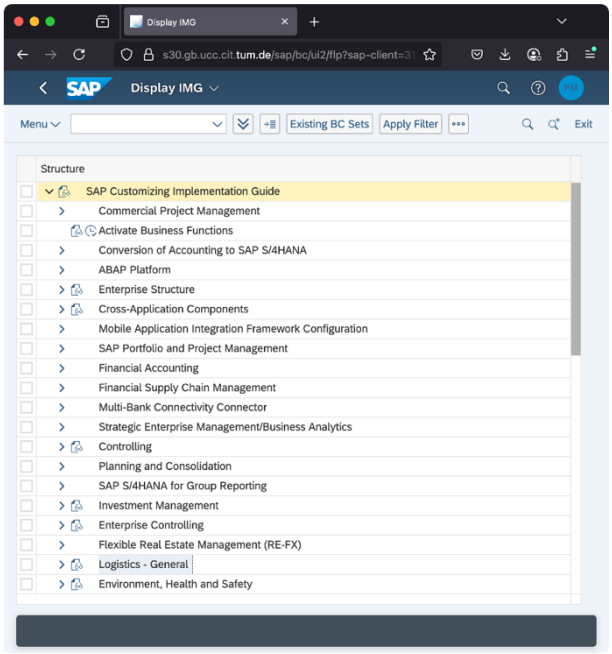


Fig. 11. Example of the SAP Fiori app for transaction "SPRO" [Screenshot from SAP S/4HANA, as of November 2025, © SAP SE. All rights reserved].

5. Summary

The brief comparison of SAP GUI and SAP Fiori highlights some key differences between the two user interfaces. SAP GUI is the traditional interface for SAP systems and has been in use since the 1990s. It offers comprehensive functionality and stable, reliable access to SAP systems, making it preferably suitable for consultants, developers, and power users who require advanced features such as customizing and ABAP development. However, its interface is often regarded as outdated and not particularly user-friendly, which can make it more challenging for new users to learn and navigate.

SAP Fiori, on the other hand, is a modern, web-based interface designed to enhance usability and user experience. It features a role-based, intuitive, and responsive access that works seamlessly across desktops, tablets, and mobile devices, making it especially suitable for business users and mobile scenarios. Fiori apps are organized as tiles on a launchpad and are tailored to specific user roles, making navigation easier and more efficient for the individual user. Fiori focuses on simplicity, personalization, and embedded analytics, and is designed for future SAP innovations.

While SAP GUI remains essential for advanced technical tasks and legacy processes, SAP Fiori significantly enhances usability, mobility, and user satisfaction – particularly for new SAP and business users looking for a more contemporary and user-friendly SAP interface.

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From 1998 to 2009, he held various positions at SAP in Walldorf, Germany, as well as in the US and Japan, ultimately serving as Chief Service Architect.

Since 2009, in his role at the University of Applied Sciences Munich, Mr. Möbert has engaged in various collaborations with SAP, contributing to different divisions and areas of application.

Mr. Möbert is a member of the griffelkunst association in Hamburg and a member of the Bavarian pug society [11].