The Value of a Collaborative Platform in a Global Project. The Indico Case Study

Irene del Rosario Crespo Garrido, María Loureiro García, and Johannes Gutleber

Abstract   The rise of collaborative platforms has revolutionized the way individuals and organizations interact. The impact perimeter embraces interpersonal communication, knowledge sharing, and collective problem-solving. Indico, a web-based platform providing a free event management system, designed, implemented, maintained, and operated by CERN is a prime example of such type of platform. It provides a range of features and benefits for organizations and individuals hosting events of any kind. Indico improves work efficiency by streamlining the event management processes, reducing manual effort, and saving time. It also leads to sustainable practices and cost savings by eliminating paper-based processes and minimizing physical infrastructure requirements. It enhances accessibility by offering virtual event options, enabling wider participation, and promoting inclusivity. The platform fosters interdisciplinary knowledge sharing and collaboration among event participants by serving as a persistent and durable repository of presentations, articles, minutes, and writeups, including publication and protection mechanisms. Making event-relating materials available online contributes to knowledge dissemination and advancing research and professional communities. Additionally, Indico can further contribute to environmental sustainability by reducing carbon emissions through virtual events and reducing the use of paper. The data management and reporting capabilities of Indico enable data-driven decision-making for future events and resource allocation. This article reports on the socio-economic value of the Indico platform. The presented work used the stated preferences approach to estimate the socio-economic value that can be expected from a collaborative platform that a future large-scale international research infrastructure will require and put in place for its purposes.

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The approach taken to monetarize the socio-economic impact produced by the platform is the Choice Experiment Method. The monetary values obtained amounts to about 3.1 billion CHF discounted for a period of 29 years (2028–2057).

Keywords Indico · CERN · LHC · Open-source · WTP · Economic impact · Social impact

1   Introduction, Motivation, and Goal

The advent of collaborative platforms has transformed the way individuals and organizations work together, enabling efficient communication, knowledge sharing, and collective problem-solving. Collaborative platforms provide a virtual space for users to collaborate, share resources, and co-create content, fostering teamwork and synergy. As these platforms continue to gain popularity, it becomes increasingly important to understand their value and impact on individuals, organizations, and society.

The value estimation of a collaborative platform encompasses a wide range of factors, including productivity gains, cost savings, innovation, knowledge creation, and social capital. By leveraging technology to facilitate collaboration and information exchange, these platforms have the potential to unlock significant value across various domains.

CERN has been promoting the Open Science movement [9] since its inception as an intergovernmental organization. This has led to the development of open-access tools and platforms that can be used by any individual. Among them is the Indico[1] collaborative event management platform, used in an ever-growing user community by several different institutions around the world.

The motivation of this analysis is to elucidate the socio-economic potential impact that emerges from collaborative software platforms and tools that large-scale, worldwide distributed scientific research programs such as CERN's Large Hadron Collider [8] require and eventually trigger.

The goal of this study is to use an existing platform (in this case Indico) as a factual example to estimate the quantitative socio-economic impact potential of a software platform that a new large-scale research infrastructure, the Future Circular Collider [1] will require.

Indico [10] is a free event management system, designed, implemented, maintained, and operated by CERN. It provides comprehensive tools and features for planning, organizing, and executing various types of events. It is designed to streamline event management processes and enhance the overall event experience for organizers,

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[1] Indico is an Open Source Software, freely available to the world, online available at https://getindico.io.

speakers, attendees, and participants. Indico offers a wide range of functionalities to support event planning and management. These include:

- Registration management: Indico allows organizers to create customizable registration forms, manage attendee data, and process registrations efficiently. It supports different registration types, such as early bird, regular, and group registrations.
- Abstract submission and review: For events involving presentations or research papers, Indico provides a submission and review system. It enables authors to submit abstracts, facilitates a peer-review process, and helps organizers in selecting and scheduling presentations.
- Program scheduling: Indico offers features for creating and managing event agendas, including sessions, multiple tracks, and speaker assignments. It allows organizers to easily update and communicate any changes in the program schedule to attendees.
- Speaker and presenter management: Indico provides tools for managing speakers and presenters, allowing organizers to collect and manage speaker profiles, bios, presentation materials, and session assignments. It ensures smooth coordination and communication with speakers before and during the event.
- Attendee communication: Indico offers various communication channels to interact with event attendees, including email notifications, event announcements, and targeted messaging. This helps organizers keep participants informed about updates, changes, and important event details.
- Virtual event support: Indico has adapted to the changing landscape of events by providing virtual event options. It supports virtual conferences, webinars, and live-streamed sessions, allowing participants to join remotely and interact with speakers and attendees virtually.
- Analytics and reporting: Indico provides data management and reporting features, allowing organizers to gather insights into event attendance, participant demographics, and engagement. It helps in evaluating the success of an event, measuring impact, and making data-driven decisions for future events.
- Integration capabilities: Indico integrates with various third-party tools and services, such as video conferencing platforms, room reservations, payment gateways, and content management systems. This enables seamless data exchange and enhances the functionality of the platform.
- Cost-effectiveness: Indico eliminates the need for expensive event management software licenses or hiring dedicated event planners and office administration personnel, making them accessible to the individuals and organizations who manage their events directly. Far from other free event management tools, Indico does not intend to generate revenue through optional premium features, advertisements, or partnerships with service providers, allowing it to offer its functionality utterly free of charge to its users. The need for the international organization to self-organize their global research programs that are set up as collaborative endeavors assure long-term maintenance, support, and continued development of

the platform. This benefit spills over to all other users of the platform that in total today exceed the original user community.

Indico simplifies and automates event management tasks, streamlining processes, and improving efficiency for organizers and participants. It offers a user-friendly interface, customizable options, and flexibility to adapt to different event types and sizes.

This article explores the benefits qualitatively produced by the Indico platform, and then transforms them into a quantified estimate of the socio-economic impact of the Indico platform, based on a method of choice experiment conducted through a survey distributed in different countries.

2 Indico Socio-economic Benefits Pathways

Indico offers several socio-economic benefit potentials for organizations, event organizers and participants, and the wider community outside the core user community. Some of the impact pathways include for instance:

- Increased efficiency: Indico streamlines event management processes, automating tasks such as registration, abstract submission, scheduling, and communication. This improves overall operational efficiency, reducing manual effort and administrative burden. Event organizers can allocate their time and resources more effectively, focusing on delivering a high-quality event experience.
- Cost savings: By using Indico, organizations can achieve significant cost savings. The platform eliminates the need for paper-based processes, reducing printing and shipping expenses. Additionally, it minimizes the need for physical infrastructure such as venue rental management, reducing costs associated with event logistics. Virtual event options provided by Indico can further save on travel and accommodation expenses for participants.
- Increased accessibility and inclusivity: Indico enhances the accessibility to events by providing virtual options. This allows individuals who may have limitations in attending physical events, such as mobility issues or geographical constraints, to participate remotely. It promotes inclusivity, enabling a wider range of participants to engage with events and share knowledge regardless of their location.
- Knowledge sharing and collaboration: Indico facilitates knowledge sharing and collaboration among event participants. Through features such as discussion forums and real-time communication tools, attendees can exchange ideas, ask questions, and build connections with peers. This fosters collaboration, interdisciplinary dialogue, and the potential for new research collaborations and partnerships.
- Networking opportunities: Indico creates networking opportunities for event participants, both in-person and virtually. Attendees can connect with experts, researchers, industry professionals, and peers who share common interests and

goals. These connections can lead to future collaborations, career advancements, and knowledge exchange.

- Knowledge dissemination: Indico supports the dissemination of research findings, abstracts, and presentations beyond the event itself. Making event materials available online enables broader access to valuable knowledge and research outputs. This promotes the transfer of knowledge, encourages further research, and contributes to the advancement of scientific, academic, and professional communities.
- Economic impact: Successful events facilitated by Indico can have a positive economic impact on local communities. Events attract participants from different regions, driving tourism, hotel bookings, and spending on local services such as transportation, restaurants, and retail. This economic boost can benefit various sectors and contribute to local economic development.
- Environmental sustainability: Indico contributes to environmental sustainability efforts by providing virtual event options. Virtual events significantly reduce carbon emissions associated with travel, as participants can attend from their locations. Additionally, Indico's paperless approach reduces paper waste, promoting eco-friendly practices.
- Data-driven decision-making: Indico's data management and reporting capabilities enable event organizers to collect and analyze event attendance, participant demographics, and engagement data. The data can be used to improve event planning and measure the impact and success of events. It facilitates evidence-based decision-making for future events and resource allocation.
- Community development: Indico being an open-source project, encourages community involvement and collaboration. Users can contribute to its development, report bugs, suggest enhancements, and share their experiences with the platform. This fosters a sense of community, promotes knowledge sharing, and allows the project to evolve and improve over time.

To be able to estimate the quantitative socio-economic value that Indico generates, we designed and carried out a survey-based study based on the choice experiment method. The subsequent section sheds light on this approach.

3   Assessing the Willingness to Pay

We used the choice experiment method [12] to evaluate the socio-economic value of Indico by estimating the Willingess to Pay (WTP) [3] among private sector users in five countries: Spain, Italy, France, Germany, the United States, and the United Kingdom. Similar methodologies have been utilized by [2, 6, 13, 14] in their respective studies.

The choice experiment method is a survey-based approach used in economics and social sciences to measure individuals' preferences for different goods or services and estimate their willingness to pay, thus elucidating the true underlying value that

Table 1 The exchange rate
used in this study

The exchange rate used for the study, November 11, 2022	
1 $	0.97 €
1 £	1.14 €

the good represents for its consumers. It is commonly employed to evaluate the
economic value of environmental and healthcare projects, public goods, or policy
changes. It allows researchers to capture the heterogeneity in preferences within a
population and provide insights into the factors that drive decision-making.

In a choice experiment, respondents are presented with a series of choice scenarios
that involve multiple options or alternatives. Each one is described by a set of
attributes or characteristics, and each attribute can take different levels or values.
The respondents are asked to choose their preferred option or alternative from each
scenario or rank them based on their preferences.

This method allows researchers to quantify preferences, understand trade-offs
between attributes, and predict people's likely choices for different scenarios. It
can provide valuable insights for product development, policy formulation, market
segmentation, and resource allocation decisions.

We surveyed to gather data from participants in these individual countries as a
basis to assess Indico's socio-economic impact. The survey included a sample of 2100
respondents, with 350 individuals from each of the six countries. The target group
for the survey comprised employees above 18 years of age working in companies
from the private sector with a minimum of 50 workplaces and who regularly use
conference, workshop, and meeting management software. To ensure consistency,
the monetary values obtained in various currencies were converted to euros, using
the exchange rate as of November 11, 2022, reported in Table 1.

The survey findings are presented in two different sections. The first section
provides an overview of the respondents' profiles, outlining their characteristics
and demographics. The second section delves into the outcomes of the respondents'
answers and willingness to pay, which was obtained using the choice experiment
method.

3.1 Respondent´s Profiles

Out of the 2100 participants, 1089 individuals were men (51.86%), 1009 individuals
were women (48.04%), and 3 participants identified as a different gender (Fig. 1).
The respondent profile shows a nearly equal distribution between men and women
aged 30–65.

The data presented in Fig. 2 and Table 2 depict the educational attainment and
current occupations of the respondents. To ensure a diverse and contrasting sample, a
wide range of occupations has been deliberately selected. Notably, most respondents
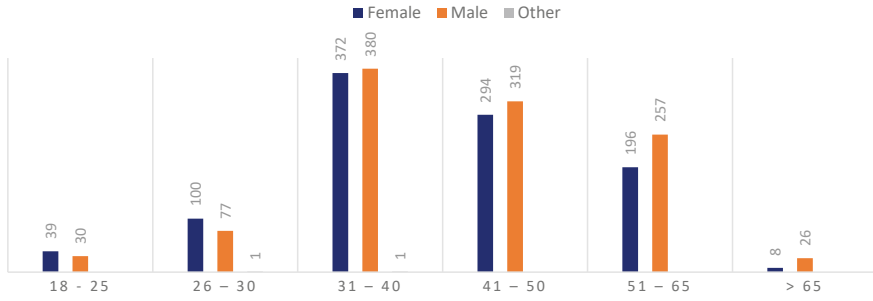reported that other occupations primarily stem from the medical field.

Fig. 1 Age range of the respondents by gender

Fig. 2 The highest level of education of the respondents in terms of gender

When respondents were asked about their gross salary, the majority of participants (excluding 51 respondents) disclosed their annual income. The data reveals that most respondents earn more than € 45,000 per year. The distribution of income ranges within the sample is depicted in Fig. 3.

The results are presented by categorizing the respondents based on their event management use patterns and familiarity with meeting and conference management tools and software. Some survey participants are well acquainted with these tools and software and use them extensively in their professional lives. The findings for this group are illustrated in Figs. 4 and 5.

We observed that the majority of respondents actively participate in events using these tools or software. A smaller group of respondents has the profile of an event organizer (Fig. 6).

Table 2 Occupational status by country

| Job title by country	France	Germany	Italy	Spain	UK	USA
Administrative employee	3	80	110	105	82	72
Computer engineer	4	18	12	11	12	38
Consultant		15	13	8	6	2
Data analyst/statistician	13	8	1	5	8	8
Director	24	28	12	37	16	35
Engineer	135	35	22	23	7	13
Executive			1		1	
Freelance/I have my own company	20	4	7	2	9	8
Manager	8	31	33	22	140	132
Other, please specify:	1	3	1	5	5	2
Researcher (including student and post-doc)	1		5	3	6	4
Retired	25	2		1		
Teacher/professor	11	11	32	18	13	8
Technician/employee	15	113	98	108	45	28
Unemployed	90	2	3	2		
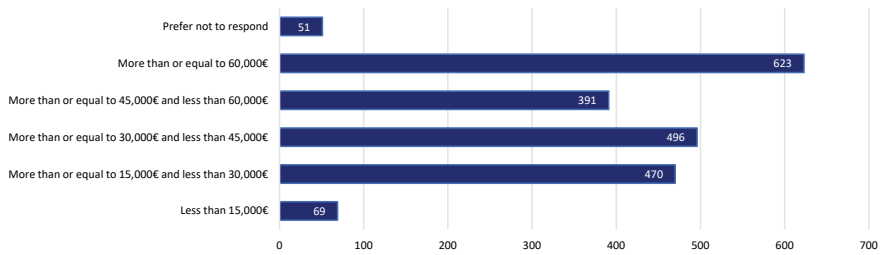
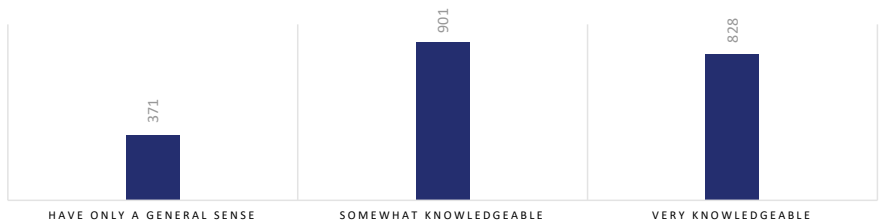**Fig. 3** Annual gross income of the respondents

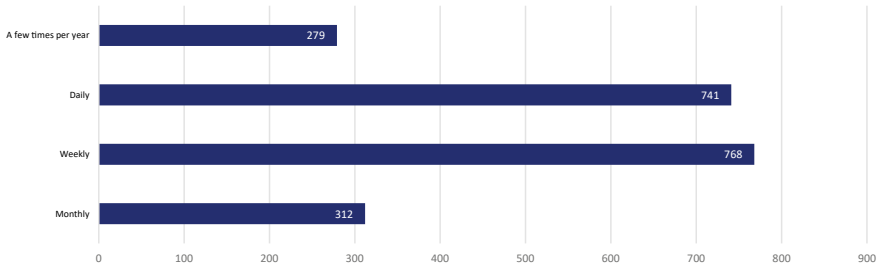**Fig. 4** Knowledge of meeting/conference management tools/software

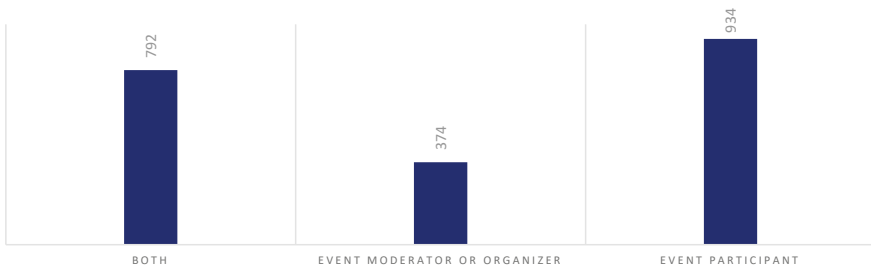**Fig. 5** Use meeting/conference management tools or software in your working life

Fig. 6 User profile type

3.2 Respondents' Preferences and WTP for an Event Managed with Indico

During the survey, two types of questions were asked to gauge respondents' WTP as a measure of the value they attributed to the common good. These questions were presented after providing an overview of the Indico tool, including its features and functionality.

The initial query received a straightforward response, employing financial indicators. Upon observing Fig. 7, it becomes apparent that a significant number of participants are amenable to paying between 150 and 900 euros for each managed event.
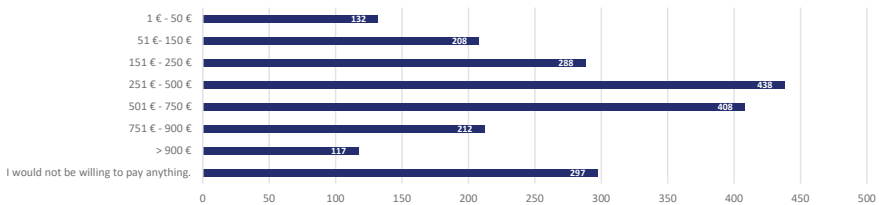

Fig. 7 Willingness to pay for the management of a single event in the Indico tool

Respondents were requested to provide justifications for their answers. The majority expressed the opinion that the selected price is reasonable considering the need to ensure the security of events and documents. This recurring response was expressed in various forms throughout the survey. A summary of these justifications based on value ratios is presented in Table 3.

Based on the outcomes of the initial question, we ran an OLS regression model intending to obtain results and to show which variables directly influence choice, the following variables were employed. The dependent or endogenous variable selected was the WTP. The independent or explanatory variables considered in the model are shown in Table 4.

The results of the regression model using the aforementioned variables are shown in Table 5.

The model demonstrates the influence of age, salary, and the user's role as a moderator/creator of events and participants on the decision of WTP. After removing variables that have no impact on the model, the estimated average WTP for organizing an event supported by Indico is reported to be 405.53 €.

Table 3 Justification for the choice made

Response value ranges (€)	The rationale for the answer
50–150	Good service
151– 250	I like that it is organized and professional
251–500	The platform is very good I like high-quality services like this Because it helps me at work
501–750	Very good platform
751–900	Effort matters Because it is elite
> 900	High-quality platform According to the description, it is a full options service with very excellent features, therefore I choose this price range

Table 4 Independent or explanatory variables of the regression model formulated

The independent or explanatory variables	Variable formulation
User type	Dummy variable: 1 = event moderator or organizer and both, 0 = event participant
Gender	Dummy variable: 1 = male, 0 = female
Age	Age of the respondents
Salary	Salary of the respondents
Level of education	Dummy variable: 1 = master's degree and doctorate level, 0 = other

Table 5 Parameters used for the calculation of willingness to pay

Independent or explanatory variables	Estimate	Std. error	t value	Pr(>|t|)
Constant	399.7496526	32.9159997	12.145	$< 2e^{-16}$***
User type	77.7775385	14.4968565	5.365	$8.98e^{-08}$***
Gender	$-$ 19.0559329	13.5783103	$-$ 1.403	0.161
Age	$-$ 4.5484464	0.6488828	$-$ 7.010	$3.21e^{-12}$***
Salary	0.0032059	0.0002921	10.977	$< 2e^{-16}$***
Level of education	$-$ 15.4176452	14.8222870	$-$ 1.040	0.298

Signif. codes: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$
Num of observations $= 2100$

3.2.1 Choice Experiment Method

Following the initial questions concerning the WTP, we carried out a choice experiment. Participants were provided information about the basic features of the Indico tool, including the names and contact details of speakers and participants, event materials, a comprehensive agenda with time indications, video conference links, speaker and participant invitations, and event access management. The attributes that respondents were queried about in the choice experiment are shown in Table 6.

To elicit respondents' preferences, we designed six distinct sets of questions, each offering four options. Three of these options presented varying combinations of the three attributes, considering the price attribute. The fourth option allowed respondents to express disagreement with the preceding three options. Table 7 shows one of the sets of questions.

Using the obtained results and based on the study [11], a conditional logistic regression model was conducted. This regression model is a statistical method used to analyze data with a nested or matched structure, particularly in cases where the outcome variable is binary or categorical. It is commonly employed in matched case–control studies or when there is a clustering or dependency within the data. The conditional logistic regression model extends the logistic regression model by accounting for the matching or clustering structure of the data. It allows for the estimation of the association between predictor variables and the outcome variable while controlling for the dependencies within the groups or clusters. It assumes a logit

Table 6 Attributes of the choice experiment included

Attributes	Choice
Price per event	(A) 250 € (B) 475 € (C) 750 €
Registration form and room reservation	Yes or no
Abstract submissions and publications review	Yes or no
Customizing the event page	Yes or no

Table 7 One question of the choice experiment method

	Indico option A	Indico option B	Indico option C	Indico option D
Price	250	475	750	Neither option A, B nor C is preferred
Registration, payment form, and room booking	Yes	No	Yes	
Abstract submissions and publications review	Yes	Yes	No	
Customizing the event page	Yes	No	No	
Please, choose one option	☐	☐	☐	☐

link function, where the log odds of the outcome variable are linearly related to the predictor variables. The model estimates the conditional odds ratios or conditional probabilities of the outcome variable based on the values of the predictor variables, taking into account the within-group dependencies.

The conditional logistic regression model is based on the premises of the random utility model (RUM) and can be represented by the following Eq. (1):

$$U = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \cdots + \beta_p X_p + \varepsilon \tag{1}$$

In this equation, U represents the random utility of the outcome variable given the predictor variables, β_0 is the intercept, also referred to as the constant term, β_1, β_2, …, β_p are the coefficients associated with the predictor variables X_1, X_2, …, X_p, respectively. The Random Utility Model (RUM) [4] is a concept commonly used in economics, particularly in the field of choice modeling and consumer behavior analysis. It is a framework that attempts to explain how individuals make choices among various alternatives by considering the utility they derive from each option.

The central idea of the RUM is that individuals make choices in a way that maximizes their expected utility. Utility refers to the satisfaction or preference that individuals derive from consuming goods or services. Each alternative is associated with a certain level of utility, and individuals choose the alternative that provides them with the highest expected utility.

Conditional logistic regression is widely used in various fields, including epidemiology, medical research, psychology, and social sciences when analyzing data with a nested or matched structure. It allows researchers to examine the relationship between predictor variables and the outcome variable while accounting for the dependencies within the data. The results of the regression indicate that all variables are statistically significant and thus have importance in the choice decision.

After formulating the conditional logistic regression model, the coefficient for the price variable must be negative, as it is used to calculate the "marginal Willingness to Pay" (MWTP), based on [5]. MWTP refers to the maximum amount of money an

Table 8 The output model

Independent or explanatory variables	Coefficient	exp(coef)[2]	se(coef)[3]	z[4]	p-value
Bid	$-2.385e^{-03}$	$9.976e^{-01}$	$5.464e^{-05}$	-43.64	$< 2e^{-16}$
Abstract submissions and publications review	$7.331e^{-01}$	$2.081e^{+00}$	$2.481e^{-02}$	29.54	$< 2e^{-16}$
Registration form and room reservation	$8.624e^{-01}$	$2.369e^{+00}$	$2.347e^{-02}$	36.75	$< 2e^{-16}$
Customizing the event page	$4.999e^{-01}$	$1.649e^{+00}$	$2.467e^{-02}$	20.26	$< 2e^{-16}$

Likelihood ratio test = 3942 on 4 df, p = $< 2.2 \, e^{-16}$
Num of observations = 50,400

individual is willing to pay for an additional unit of a good or service. It represents the incremental value or utility that an individual derives from consuming one more unit. MWTP is an essential concept in economics and is used to measure consumer preferences and demand. It helps determine how much consumers are willing to sacrifice in terms of monetary value to obtain an additional unit of a particular good or service. MWTP can vary among individuals based on their preferences, income levels, and other factors. It also plays a crucial role in determining the demand curve for a product or service, as it represents the maximum price consumers are willing to pay at each quantity level. Economists and businesses analyze MWTP to understand consumer behavior, set prices, and make production decisions. By understanding how consumers value additional units, businesses can optimize their pricing strategies and allocate resources efficiently. The output model is shown in Table 8.

According to the findings obtained using the model, participants are willing to pay an extra 307.38 € for the "Abstract submissions and publications review" feature in their events. Conversely, the "Customizing the event page" feature is perceived as the least valuable, 209.60 €, while the "Registration form and room reservation" feature is considered the most valuable, 361.59 €. On average, respondents expressed a Willingness to Pay an additional 292.86 € for each additional feature added to the basic event. Based on these findings, it's evident that a tool like Indico would be well-received within the market.

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[2] The term "exp(coef)" represents the exponential function applied to a coefficient in statistical analysis. It is commonly used to interpret the effect size or relative change associated with a one-unit increase in the predictor variable.

[3] The term "se(coef)" refers to the standard error of a coefficient in statistical analysis. It is a measure of the variability or uncertainty associated with the estimated coefficient. The standard error provides an indication of how much the estimated coefficient is expected to vary across different samples from the same population. A smaller standard error suggests a more precise estimate, while a larger standard error indicates greater uncertainty in the coefficient estimate.

[4] The z-score is a measure of how many standard errors the coefficient estimate is away from zero. It helps assess the statistical significance of the predictor variables in the model by comparing the estimated coefficient to its standard error.

4   Socio-economic Value of Indico

The survey results have played a crucial role in determining the monetary value associated with the socio-economic impact of the Indico tool for the FCC observation period 2028 -2057. The study focused on selecting institutions that have adopted the Indico tool for their purposes already today. In an effort to encompass communities beyond the core users, a deliberate attempt was made to exclude organizations that largely overlap with the LHC particle physics community. Table 9 presents the organizations and infrastructures that have been included in the study, along with the annual number of events they host using the Indico tool. The values within the cells represent the annual count of events organized by each organization. The column on the far right displays the total sum of events managed by each organization yearly.

Considering that, except for the United Nations using the tool mostly for conferences (90%), Indico is primarily used for lecture or meeting events. By excluding the category of "Submission of abstracts and review of publications," which is predominantly associated with conferences, the survey results indicate a WTP of 571.19 € per event. The model incorporates two additional assumptions: First, the number of events is projected to increase by 20% annually from 2028 to 2040, using the reference period of 2014–2022. Second, from 2041 to 2057, the growth in events is estimated to be 5% per year, considering that the user community of the platform will eventually stabilize.

$$SEV = \sum_t \frac{(Number of events_t \times 571.19€)}{(1 + SDR)^t} \tag{2}$$

Upon evaluating formula (2), the resulting overall discounted potential for socio-economic impact is assessed at 571.19 € per event, applying a social discount rate (SDR) of 2%, based on the study [7], yields a total of 3.1 billion CHF for the entire observation period and 107 million CHF discounted annually. Considering the great adaptability of this tool in generating various types of events, it is essential to recognize that the results presented here represent a cautious situation, based on the current usage patterns of the tool. If we were to cover the full spectrum of event combinations that can be achieved with the Indico tool, the results would undoubtedly be expanded, leading to a higher socio-economic impact result.

5   Conclusions

Collaborative platforms offer numerous valuable benefits for individuals and organizations, providing a centralized space for efficient teamwork and a range of communication tools. These platforms streamline workflows by centralizing documents, files, and project-related information, eliminating time-consuming tasks like file searches and coordination of updates. With simultaneous document access and collaboration,

Table 9 The organizations and infrastructures considered

Year	WWU Münster	SISSA	SKAO	Maths CNRS	EGO	United Nations	ESA	UU	CTA	STFC	RIKEN	FUSENET	EGI	INAF	IHEP	Sum events
2014			33	280			17	78	235		338		384	31	672	2068
2015		2	31	264		1973	32	86	204		359		348	125	679	4103
2016		2	50	673		3910	36	89	221		261		335	145	925	6647
2017		11	35	869		4354	38	123	372		218		333	69	844	7266
2018		7	30	855	7	4636	36	105	392	17	252		603	127	1268	8335
2019	30	7	54	924	28	5083	44	113	376	81	306	1	571	194	1652	9464
2020	144	10	53	731	58	2486	29	122	541	104	289	4	485	315	1899	7270
2021	517	4	48	744	154	1807	31	152	596	186	343	10	324	459	2325	7700
2022	571	13	53	1289	170	3270	34	232	683	196	331	8	245	420	2431	9946

version control is improved and redundant efforts are reduced. This heightened efficiency enables teams to accomplish tasks more swiftly and effectively. Among these platforms is Indico.

Indico, developed by CERN, is a robust event management tool specifically designed to cater to the needs of scientific and academic communities. Its extensive features and functionalities are tailored to the requirements of organizing and managing events within these domains. With its user-friendly interface, Indico simplifies event creation, scheduling, and registration management, streamlining the entire event management process. It provides comprehensive support for handling complex agendas, parallel sessions, and diverse event formats, ensuring seamless coordination of scientific conferences, workshops, seminars, and more. A noteworthy strength of Indico lies in its integration with scientific collaboration tools and services, including for instance the CERN Document Server (CDS[5]). This integration allows for the effortless incorporation of scientific papers, presentations, and related materials into event listings and agendas, enhancing accessibility to scientific knowledge and promoting efficient information sharing within the scientific community. Indico offers advanced features for abstract submission and review, enabling effective management of the scientific content of events. It supports a peer-review process, where researchers can submit abstracts and reviewers can evaluate and provide feedback on submissions. This functionality streamlines the selection of presentations and posters, ensuring a high-quality scientific program. Moreover, Indico provides comprehensive collaboration and communication tools for event participants, such as discussion forums, messaging systems, and document-sharing capabilities. These features facilitate networking, collaboration, and knowledge exchange among researchers, scientists, and attendees. The platform's flexibility and customization options allow organizers to adapt Indico to their specific event requirements. It can be configured to support different workflows, languages, and branding, providing a tailored experience for various scientific communities and institutions. As a specialized event management platform developed by CERN, Indico effectively addresses the unique needs of scientific events. Its integration with scientific collaboration tools, advanced abstract submission and review features, and comprehensive collaboration tools make it an invaluable resource for organizing and managing events within the scientific and academic domains.

The objective of this study was to showcase, for the first time in the platform's history, the socio-economic impact of a collaborative web-based platform that is required by a global scientific community and which spills over into further user communities using a choice experiment method conducted through a survey. The estimation of the evolution of the use base was chosen based on the actual past evolution of the user community. The observation period 2028–2057 for the estimation of the future socio-economic impact potential was deliberately chosen to capture the impact potentials for a new, large-scale research infrastructure that will require the same kind of collaboration, the Future Circular Collider.

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[5] CERN Document Server, online available at http://cds.cern.ch.

The findings from the study indicate that the average WTP for the attributes selected in the survey for such an event management tool is approximately 293 €. Based on the established WPT 571.19 € per event, a socio-economic impact of 3.1 billion CHF using a social discount rate of 2% is reported for the period 2028–2057.

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