



MÁSTER EN INGENIERIA INDUSTRIAL

TRABAJO FIN DE MÁSTER

Wikicai's Business Case and Study of the Digital Note-sharing Spanish Market

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Madrid

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Entidad Colaboradora: ICAI – Universidad Pontificia Comillas

ABSTRACT

Este Proyecto estudia la historia y el desarrollo del negocio de apuntes digitales creado por Wikicai en la Universidad Pontificia de Comillas – ICAI. El estudio incluye el análisis de la historia reciente de la compañía, así como el estudio del estado del mercado y sus competidores nacionales e internacionales. Por último, este trabajo incluye la elaboración del plan estratégico preliminar a futuro de Wikicai, en el que se analiza el lanzamiento de un nuevo modelo de negocio con el objetivo de crecer y expandirse nacionalmente.

Keywords: Wikicai, Apuntes, Digital, Suscripciones, Anuncios, Educación, EdTech, Start-up

1. Introducción

A lo largo del verano de 2017, Francisco Dueñas, estudiante español de la Universidad Pontificia de Comillas – ICAI, desarrolló y lanzó una start-up llamada Wikicai. Wikicai nació como una Plataforma online en la que se comparten todos los apuntes manuscritos que Francisco ha elaborado durante su carrera universitaria. La página web permite acceder al contenido de manera remota y online desde cualquier sitio y en cualquier momento, ayudando a los estudiantes a organizar con mayor eficiencia su estudio y reduciendo el tiempo de aprendizaje. Además, todo el contenido de la web se organiza con la misma estructura que utilizan los profesores en clase, ayudando aún más al estudio de los alumnos.

La industria de la educación ha crecido enormemente en los últimos años, impulsado por la creciente preocupación de la sociedad por la cultura y la formación laboral. Actualmente, existen varias tendencias clave en el mercado que obligan a las empresas de la industria a adaptarse con agilidad. Estas tendencias, analizadas en el proyecto, incluyen la transformación digital, las desigualdades sociales, las presiones de financiación en las entidades públicas y la importancia del conocimiento a largo plazo.

En efecto, según comparte Euromonitor International [1], el mercado de la educación crecerá más de un 50% desde el 2019 hasta el 2025, alcanzando un tamaño de mercado total de casi 6 billones de dólares USD. En este sentido, Wikicai se encuentra focalizado en una pequeña parte de este mercado, que tiene aún mayor crecimiento, y es la llamada industria EdTech. EdTech es el conjunto de iniciativas y empresas que focalizan sus modelos de negocio en la educación, pero cuya propuesta de valor se fundamenta en mayor medida en aplicaciones tecnológicas. Además, el segmento EdTech está teniendo un crecimiento muy alto debido a que una gran parte de los *players* tradicionales de la educación están aún muy retrasados en su transformación digital, permitiendo la entrada de competidores innovadores y modernos como los EdTech.

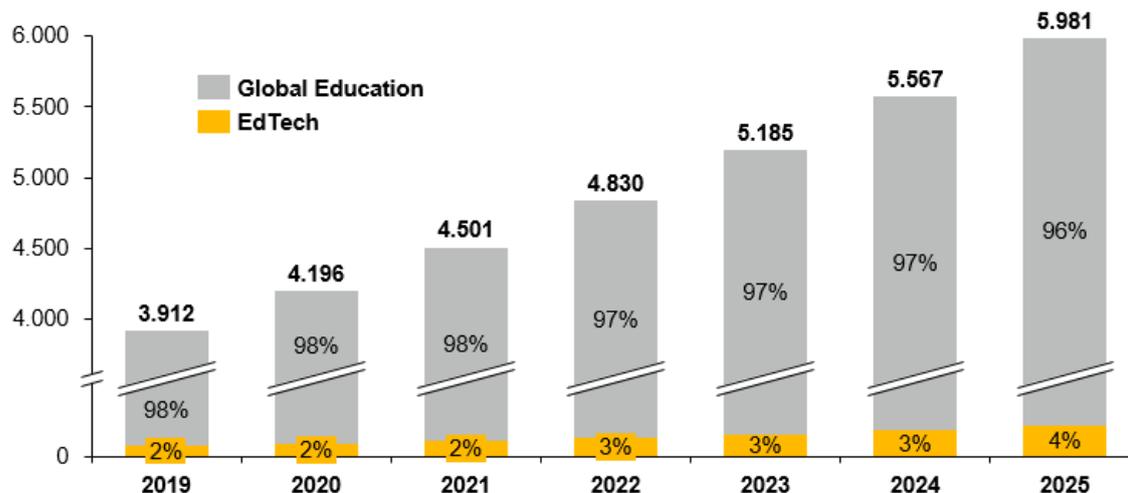


Figura 1: Comparación de tamaño de mercado Educación Global y EdTech [Billones USD]

En consecuencia, el lanzamiento del nuevo modelo de Wikicai no solo se trata de realizar mejoras en la plataforma existente mediante el estudio de la historia de la web y de sus competidores, el lanzamiento de Wikicai tratará de innovar con nuevas tecnologías para conseguir la mejor experiencia de usuario posible, incrementando la eficacia del estudio de los alumnos y creando el máximo valor posible para las empresas que formen parte de la cadena de valor.

2. Definición del Proyecto

La razón de realización de este proyecto ha sido la motivación personal y el sueño del fundador de Wikicai de expandir y desarrollar el negocio fuera del mercado actual, que ahora mismo solo es la Universidad Pontificia de Comillas – ICAI. Este interés y predisposición por el crecimiento y la mejora es la pieza fundamental de valor del proyecto y consolida el resto de los objetivos de negocio que tiene el proyecto. Respecto a estos objetivos, el proyecto ataca tres objetivos principales.

En primer lugar, el proyecto busca la definición de nuevo modelo de negocio y plan estratégico de Wikicai, con el fin de desarrollar el negocio el máximo posible, expandiéndose nacionalmente y mejorando la calidad del servicio ofrecido a los estudiantes. Wikicai siempre ha apostado por tener el mejor contenido y la mejor experiencia de usuario posible, y en ese sentido, el nuevo modelo de negocio se centrará en desarrollar su portfolio de clientes sin perder la naturaleza de excelencia.

En segundo lugar, y relacionado con el primer objetivo, Wikicai nació de una iniciativa social y de ayuda al estudio altruista, en la que mejorar la eficiencia y eficacia al estudio de los alumnos era el principal y único objetivo. En este sentido, Wikicai mantendrá su afán por centrarse en el estudio de sus clientes y alumnos, teniendo en cuenta a éstos en todas las decisiones e implantaciones que se realicen en la plataforma.

Por último, este proyecto intentará integrar los dos objetivos iniciales, desarrollo de negocio y mejora del estudio de los alumnos, con implementaciones tecnológicas y digitales

innovadores, que permitan mejorar la experiencia de los alumnos de forma remota y que ayude activamente a estos a participar y destacar en clase.

Por otro lado, la metodología del proyecto esta dividida en tres partes fundamentales. En primer lugar, se realiza un análisis y relato de la historia de Wikicai desde su fundación. Esta sección incluye toda la información respecto a Wikicai desde 2017, incluyendo detalles respecto a los resultados y los desarrollos que se han realizado a lo largo del tiempo.

En segundo lugar, el proyecto se centra en analizar e investigar el mercado de apuntes digitales tanto nacional como internacionalmente. Esta investigación, además, sirve como piedra angular para desarrollar el modelo de negocio de Wikicai y poder innovar al máximo posible en su definición. El objetivo es poder incorporar nuevas ideas, con un toque tecnológico, que ayuden a destacar en el mercado y a ofrecer un mejor producto.

En tercer lugar, el Proyecto desarrolla el plan estratégico de Wikicai para los próximos años. Este plan estratégico incluye la definición del nuevo modelo de negocio de la compañía, junto con el análisis del *business case* y el modelo financiero. Además, se realiza una introducción y definición de los requerimientos de proyecto para implantar el plan, introduciendo las actividades más importantes y un calendario preliminar de implantación de las iniciativas.

3. Investigación, Análisis y Resultados

Tal y como se ha mencionado anteriormente, esta sección del proyecto se ha dividido en tres partes principales, que incluyen: Evaluación de la historia y resultados de Wikicai, Estudio del mercado de apuntes digitales y Definición del Plan Estratégico de Wikicai.

3.1. Evaluación de la historia y resultados de Wikicai

Respecto a la historia de desarrollo y lanzamiento de Wikicai, el negocio ha tenido cuatro importantes hitos desde que se fundó en octubre de 2017 hasta la última fecha de actualización de la plataforma, que sucedió durante la pandemia en 2020.



Figura 2: Calendario de actualizaciones y desarrollos de Wikicai

Durante la primera parte de la historia de Wikicai, definida entre octubre de 2017 y enero de 2019, el modelo de negocio de la plataforma era ofrecer acceso ilimitado y gratuito a todos los miembros y estudiantes de la web. Adicionalmente, la plataforma carecía de cualquier tipo de anuncio, permitiendo una mejor experiencia de usuario y una navegación más fluida. Generar beneficios no era una prioridad en esta etapa, que estaba centrada en ayudar al mayor número de estudiantes posible y que cuyas ventas dependiendo exclusivamente de la generosidad de ciertos miembros que donaban voluntariamente a la página. Aún así, las ventas no eran suficientemente grandes como para cubrir todos los gastos, y el modelo de negocio necesitaba un cambio tarde o temprano.

Este cambio de modelo de negocio ocurrió en enero de 2019, cuando Wikicai renovó toda la plataforma, servidores e incluso contenido para ofrecer una mejor experiencia a los estudiantes. Aprovechando esta circunstancia, y teniendo en cuenta los malos resultados económicos que precedían, se realizó un cambio en el modelo de negocio por el cual los miembros debían pagar una suscripción para poder acceder al contenido de la plataforma. Estas suscripciones se clasifican según el curso y la carrera, y tienen una duración semestral, aunque se pueden adquirir en indefinidas ocasiones y en cualquier momento del curso. Actualmente tienen un coste de 0.99€ por cada semestre y se ofrece también la posibilidad de comprar un pack de cursos de distinto año, para los alumnos que necesiten utilizar apuntes de cursos anteriores para recuperar asignaturas.

Aún así, no todos los problemas se resolvieron tras implementar el nuevo modelo de negocio, de hecho, surgieron dos con bastante importancia y urgencia para resolver. Ambos estaban relacionados con el mal uso de la plataforma y la picaresca de los estudiantes para no pagar las suscripciones y acceder al contenido gratuitamente. El primer problema trataba sobre la posibilidad de compartir los documentos entre amigos, y a que, si un usuario descargaba todos los apuntes de todos los años, podría enviar estos a cualquier otra persona que no tuviera acceso a la plataforma. Por ello, se decidió no permitir la descarga de archivos en la página mediante la modificación de los derechos de acceso a la URL de Wix. Por otro lado, si los usuarios no podían descargar los documentos, podrían utilizar una misma suscripción para acceder muchos estudiantes a la vez a la plataforma y utilizar el contenido. En este caso, se desarrolló un sistema, llamado IP Tracking System, el cual no permite la utilización de una suscripción en más de un dispositivo simultáneamente.

Analizando con mayor detalle este programa, el IP Tracking System fue desarrollado en la API de Wix Code y está escrito en JavaScript. Su funcionamiento es muy sencillo, en primer lugar, genera una base de datos de todos los miembros con suscripción en la plataforma y guarda una IP asociada al último *login* de cada uno. Cada vez que un usuario vuelve a conectarse o navegar por la web, el sistema verifica que la IP guardada coincide con la IP que se está utilizando en ese momento. En caso de no coincidir, entonces el sistema expulsa al usuario de la plataforma y notifica al administrador para tomar acciones de mayor recalo. Además, el sistema guarda la nueva IP para comprobar si el usuario sigue realizando en el futuro un mal uso de la plataforma.

Después del cambio de modelo de negocio, Wikicai realizó dos cambios importantes a finales de 2019 y durante la pandemia en el 2020. En primer lugar, se actualizaron los servidores de la página durante los exámenes finales del curso 2019/2020, debido a un fallo grave en los mismos. Se aprovechó este problema para cambiar por completo estos servidores, implementando unos nuevos con mayor rapidez y fluidez de navegación. En segundo lugar, durante el 2020, Wikicai renovó por completo el diseño de la página web, actualizando las secciones con mayor interacción con los estudiantes en un intento de reducir la complejidad de navegación y uso de la plataforma.

Por último, en esta sección del trabajo también se lleva a cabo un análisis de los resultados de la plataforma, tanto desde el punto de vista económico como el punto de vista de experiencia de usuario y tráfico en la web. Desde el punto de vista económico, la plataforma tuvo pérdidas durante los dos primeros años, hasta que se cambió el modelo de negocio a un modelo de suscripciones. Desde entonces, Wikicai ha generado beneficios recurrentes y estables en torno a los 300€, que suponen un margen neto de más del 60%, y que, aunque suponga un volumen muy pequeño, demuestra el gran potencial del negocio si se consigue escalar y aumentar la base de clientes. Por otro lado, el tráfico de la página web muestra una relación directa con el modelo de negocio, decreciendo en número de visitas

tras la implementación del modelo de suscripciones, pero demostrando una gran base de clientes, con más de siete mil usuarios distintos desde el 2018.

3.2. Estudio del Mercado de Apuntes Digitales

A continuación, se analiza una detallada investigación del mercado de apuntes digitales. Tras adquirir una primera visión de las tendencias actuales en la educación, start-ups y tecnología, es importante centrarse en el mercado en el que se va a lanzar el nuevo producto de Wikicai para aprender y observar los modelos de negocio, resultados y propuestas de valor de los principales competidores que existen en el mercado.

Además, realizar una investigación fructífera y con buenas conclusiones es fundamental para obtener la información necesaria del mercado, y utilizando la experiencia y conocimiento adquirido durante la primera etapa de Wikicai, desarrollar el mejor modelo de negocio y plan estratégico para la compañía. Esta investigación está dividida en dos partes, la primera focalizada en compañías internacionales y de gran tamaño, y una segunda etapa centrada en empresas españolas, que son competidores directos de Wikicai.

Respecto a la primera etapa de investigación, los principales *players* en el mercado internacional son StuDocu, CourseHero, Chegg y Nexus Notes. El primero de ellos, StuDocu, tiene origen holandés, el último, Nexus Notes, es australiano, y el resto, Coursehero y Chegg, son empresas americanas. Curiosamente en cambio, sea cual sea su país base, todos ellos intentan publicitarse como la plataforma con el mejor contenido del mercado, tanto en calidad como en cantidad. Además, todos ellos comenzaron con una idea similar a la de Wikicai, intentar mejorar la calidad de estudio y aprendizaje de los universitarios. Entre todas las compañías mencionadas, las plataformas de Chegg y StuDocu destacan sobre el resto, con un diseño moderno y minimalista, que permite al usuario tener una experiencia gratificante y fluida, algo clave para poder ofrecer un gran producto. Respecto a resultados económicos de estos *players*, es importante destacar que Chegg es una compañía fundada en 2005, y que durante todo este tiempo se ha diversificado totalmente su negocio, ofreciendo diversos productos como tutorías, *mentoring*, y venta de libros. Gracias a ello, es una empresa pública cotizada, con una capitalización bursátil actual de más de 11 billones de dólares USD y con unas ventas anuales de 320 millones de dólares USD. En cambio, compañías más pequeñas como StuDocu, con gran presencia en Europa, destaca por sus grandes resultados, habiendo obtenido unas ventas netas de más de 1.3 millones de euros en el 2019.

Por otro lado, DocSity y Wuolah son las otras empresas investigadas en la sección de *players* nacionales. Aunque DocSity fue fundada y lanzada en Italia, la compañía adquirió la plataforma Patatabrava.com, que era el principal *player* de apuntes y estudio digital en España, instaurándose de lleno en el mercado español. Wuolah en cambio fue fundada por universitarios sevillanos, y ha sido la empresa con mayor crecimiento en el mercado español en los últimos años. Su modelo de negocio se basa en ofrecer apuntes de todas las universidades españolas fomentando a los propios alumnos subir sus apuntes personales, y pagándoles un porcentaje de los beneficios adquiridos por publicidad proporcionalmente al número de descargas que estos documentos consiguen. De esta manera, consiguen tener muchos documentos distintos subidos en la plataforma a la vez que aumentan el tráfico de la web, y por tanto los ingresos de publicidad. Aún así, Wuolah presenta varias debilidades, siendo la más destacable la pobre experiencia de usuario que aporta a los clientes. Dado que su modelo de negocio se basa excesivamente en la publicidad, la plataforma está sobrecargada de ella, dificultando la búsqueda de contenido y ralentizando la navegación por la misma.

Por último, esta sección realiza un análisis de las Cinco Fuerzas de Porter respecto al mercado de apuntes digitales. Los resultados muestran que los pilares fundamentales a dominar en el mercado son los suministros y los consumidores. En mayor medida, tener atados con certeza los suministros es clave para poder ofrecer un gran producto y posicionarse adecuadamente en el mercado. Por otro lado, los consumidores del modelo de negocio no serán tanto los propios estudiantes, sino las empresas que aporten capital a cambio de publicitarse en la plataforma. Por ello, cuanto mejor sea el producto ofrecido, mayor será el poder de negociación con estos consumidores.

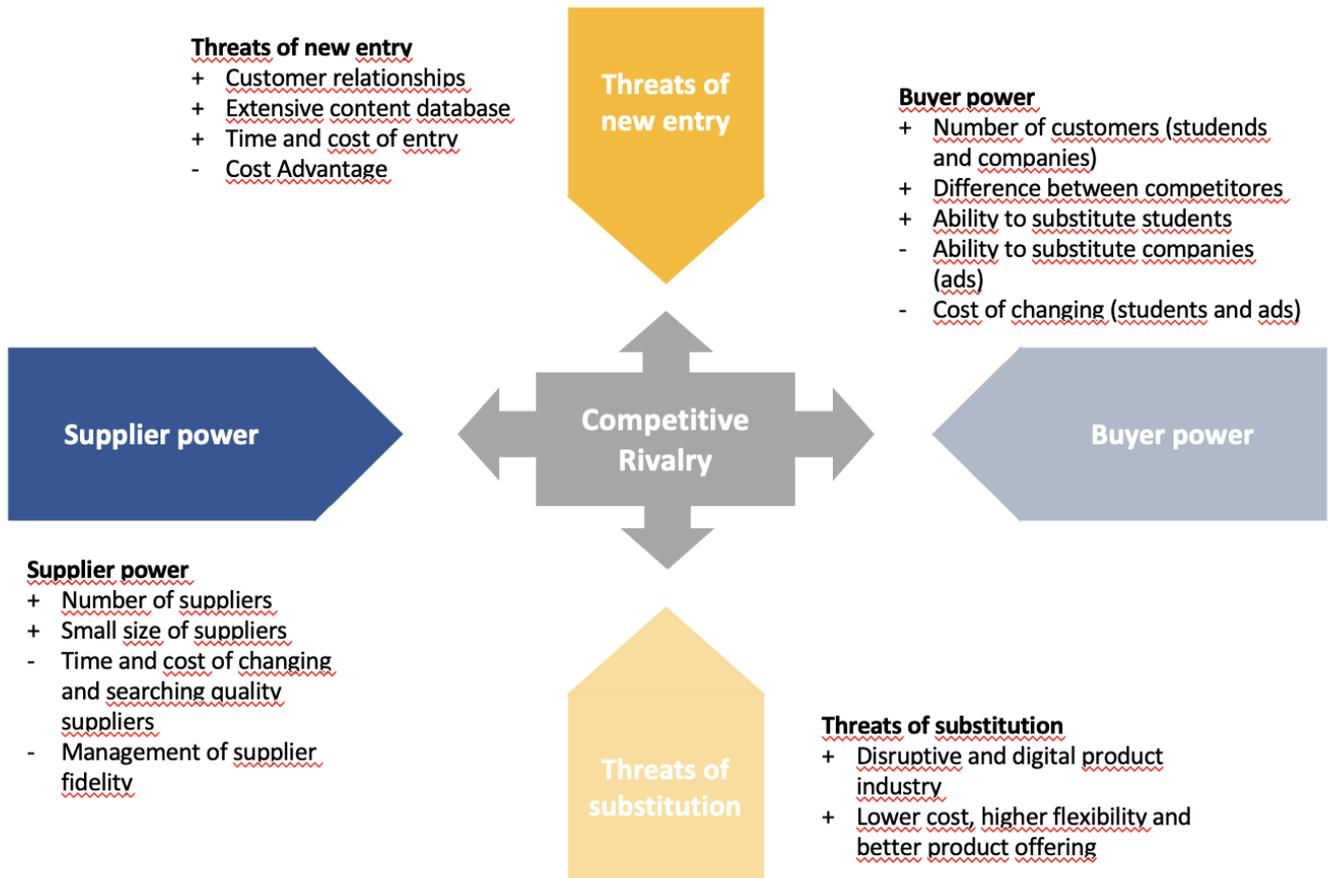


Figura 3: Análisis de las Cinco Fuerzas de Porter en el mercado de apuntes digitales

3.3. Definición del Plan Estratégico de Wikicai

Por último, este proyecto aprovecha todo el conocimiento, información y experiencia generada en las secciones previas para desarrollar y elaborar el plan estratégico preliminar de Wikicai para los próximos años. Este plan estratégico incluye la elaboración del nuevo modelo de negocio de la empresa, junto con su correspondiente *business model canvas* y el desarrollo detallado del *workflow* de operaciones. Adicionalmente, incluye la actualización de la propuesta de valor de la compañía, adaptada a las nuevas tendencias y modelo de negocio. Por último, esta sección también desarrolla un *business case* preliminar del negocio,

con el análisis de escenarios económicos y posibles resultados, con el objetivo de confirmar la viabilidad y rentabilidad del proyecto.

En primer lugar, el modelo de negocio de Wikicai migrará y se transformará de un modelo basado en acceso por suscripciones a un modelo centrado en el acceso gratuito para todos los usuarios. Esta medida incrementará masivamente el tráfico de la página web que, como consecuencia, se explotará para intentar monetizar las visitas al máximo. Para ello, y sin poner en peligro la calidad y experiencia de usuario en la plataforma, se incluirán diversas tipologías de anuncios tanto en la propia plataforma como en los documentos. Es importante mencionar en este sentido que los anuncios formarán parte del diseño de la página, para que el usuario no se sienta intimidado respecto a ellos, sino que pasen “desapercibidos” a sus ojos. Además, estos anuncios podrán ser automáticos, generados por Google AdSense, o personalizados y asignados individualmente para diversas compañías y con diseños especializados.

Respecto a las operaciones del modelo de negocio, tal y como se extrajo del análisis de las Cinco Fuerzas de Porter, tener unos suministros de calidad y fiables es clave para poder ganar una posición ventajosa en el mercado, y por ello, Wikicai basará su modelo de negocio en un sistema de embajadores de universidades, que se encargaran personalmente de buscar y suministrar los mejores apuntes existentes en su universidad. De esta manera, la Plataforma no se limita a subir cualquier contenido que cualquier alumno tenga, sino que todos los documentos tienen una serie de filtros y análisis que verifican personalmente la calidad de los mismos. De esta manera también, se consiguen mayores beneficios para los alumnos que tengan los mejores apuntes, ya que serán ellos los que generen el mayor porcentaje de descargas.

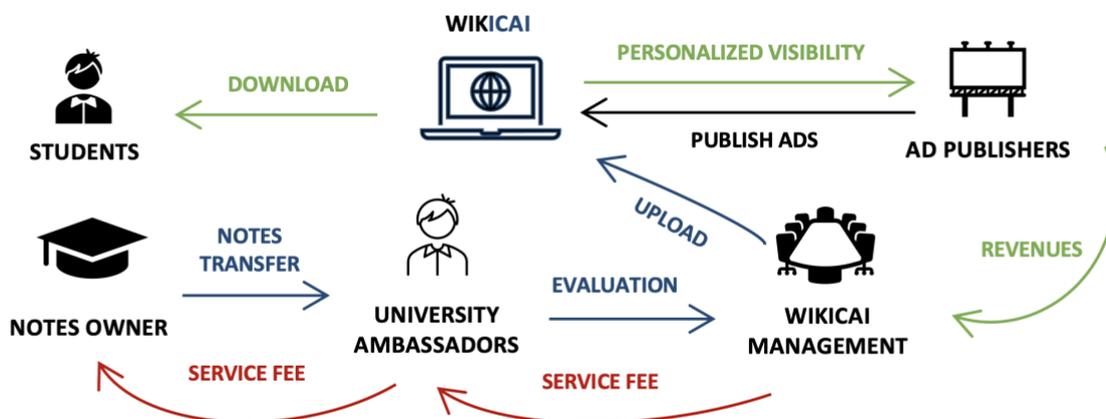


Figura 4: Workflow del nuevo modelo de negocio de Wikicai

Implementar el plan estratégico correctamente es clave para asegurar una posición de poder en el mercado, por ello, esta sección elabora un calendario a alto nivel de las actividades más importantes a realizar en los próximos meses para acometer el lanzamiento del nuevo modelo de Wikicai.

Este conjunto de actividades principales está dividido en cinco puntos fundamentales que incluyen: estrategia de negocio y operaciones, desarrollo de software, estrategia de contenido, estrategia de publicidad y test de la plataforma. En primer lugar, la definición de

la estrategia de negocio es parte de este mismo proyecto, con la definición del nuevo modelo de negocio, lanzamientos de mercado y un estudio económico preliminar. Adicionalmente a estos, también se deberán realizar tareas de planificación de operaciones en el negocio, para aumentar la optimización y eficacia en el día a día.

En segundo lugar, el desarrollo de software y de la plataforma, es junto a la estrategia de contenido, los dos puntos fundamentales a trabajar en los próximos meses. Conseguir construir una plataforma de calidad, rápida, con un diseño atractivo y que atrae el uso de los clientes permitirá conseguir mayor tráfico en la web y por tanto será un mayor atractivo para las compañías que quiera publicitarse.

En tercer lugar, tal y como se ha mencionado anteriormente, adquirir el mejor contenido y de mayor calidad posible es una de las claves del nuevo modelo de negocio de Wikicai. Por ello, muchos esfuerzos durante los próximos meses tienen que ir dedicados a conseguir incorporar los mejores embajadores de las universidades en las que Wikicai va a lanzarse. Una vez que estos embajadores se han conseguido, se debe seguir trabajando en entregar a estos todas las herramientas y facilidades posibles para que puedan encontrar los apuntes de mayor calidad en sus universidades.

En cuarto lugar, el equipo debe trabajar también en la estrategia de publicidad de la plataforma. Con el objetivo de destacar en este sentido frente a competidores como Wuolah, es importante planificar y estudiar meticulosamente el grado de penetración de los anuncios para que el usuario no vea afectada su experiencia por una plataforma demasiado cargada de anuncios. Además, es necesario desarrollar un sistema de creación automática y personalizada de anuncios, y documentos de ayuda para realizar sesiones de *pitching* a compañías externas.

Por último, para verificar el funcionamiento y desarrollo de la plataforma, se realizarán varios tests previos al lanzamiento, que deberán ser verificados por usuarios de la página que recibirán acceso previo limitado. Además, se utilizarán estos tests para también probar las nuevas capacidades y resultados con la integración de anuncios en la web.



Figura 5: WBS del lanzamiento e implantación del plan estratégico de Wikicai

Respecto al modelo financiero y la elaboración del *business case*, este proyecto ha analizado los resultados obtenidos por Wikicai en los últimos años y se han definido una serie de variables base con las que se ha podido proyectar un escenario de resultados de alto nivel del negocio a futuro. El objetivo de este análisis económico es principalmente verificar la viabilidad y rentabilidad del negocio, para así ayudar en la financiación y en el apoyo externo a la iniciativa.

El modelo económico se ha calculado partiendo de la estimación de visitas que puede obtener la pagina web. Teniendo en cuenta las visitas que actualmente tiene Wikicai, se ha estimado el potencial de crecimiento de la web con el lanzamiento de Wikicai en distintos mercados. Además, una vez estimadas estas visitas, se ha realizado un análisis *top-down*, calculando, gracias a variables como el CPC (Cost-per-Click) y el CTR (Click-Through-Rate) las ventas totales asociadas al flujo de visitas existente en la web. Una vez estimadas las ventas, se calculan los márgenes de beneficio, teniendo en cuenta los gastos extraordinarios de lanzamiento, los gastos fijos del negocio como el mantenimiento y desarrollo de web y los gastos variables como los pagos a embajadores y propietarios de apuntes, que dependerán del número de visualización y descargas que se obtenga.

A continuación, en las Figura 6 se muestra la definición de las variables de negocio utilizadas para la elaboración del modelo económico. Como se puede observar, se ha realizado el análisis de dos escenarios distintos. El primero, representa la situación *lower-case*, intentando representar la situación en la que se consigan resultados normales en cuanto a ventas, CTR, CPC, costes y crecimiento de la web. Además, este escenario plantea la inclusión de anuncios automáticos vía Google AdSense, los cuales generas menos ventas y pueden afectar a un crecimiento más lento de las visitas. Por otro lado, el segundo escenario representa la visión más positiva del modelo, con un crecimiento mayor y unas mejores posiciones de ventas.

		SCENARIO 1: Lower Case & Google AdSense	SCENARIO 2: Upper Case & Personal Ads
REVENUES	Visits growth	180%	220%
	CPC (Cost-per-Click)	1.00 €	1.50 €
	CTR (Click-Through-Rate)	2%	3%
VARIABLE COSTS	Fee per individual (% of revenue generated)	35%	30%
FIXED COSTS	Website maintenance and development fees (monthly)	150.00 €	250.00 €
	Platform initial development	3,000.00 €	3,375.00 €
OTHER COSTS	Other financing activites (w/r to Revenues)	15%	20%

Figura 6: Variables de negocio de cada escenario del nuevo modelo de negocio de Wikicai

En general, los resultados del *business case* y modelo financiero demuestran el gran potencial existente en el mercado, y que dan fuerza al lanzamiento de la nueva versión de Wikicai. Específicamente, los resultados muestran márgenes superiores al 40% respecto a ventas a partir del segundo año de implantación, asumiendo que cada año el negocio es capaz de crecer al menos al mismo porcentaje que el primero, sobre un 200% en cuanto a visitas. Y es que, este crecimiento no es nada descabellado considerando la gran cantidad de universidades y alumnos que no están dentro del mercado de Wikicai por el momento. Además, el hecho de obtener márgenes tan grandes disminuye el riesgo de pérdidas y garantiza que el negocio seguirá con fuerza pese a diversos problemas inesperados que pueda surgir.

SCENARIO 1

	2022				2022	2023	2024
	Q1	Q2	Q3	Q4	FY	FY	FY
Visits (End of Period)	30,000	75,000	97,500	397,500	600,000	1,680,000	4,704,000
Total Ad Clicks (End of Period)	450	1,125	1,463	5,963	9,000	25,200	70,560
Revenue	450 €	1,125 €	1,463 €	5,963 €	9,000 €	25,200 €	70,560 €
<i>Revenue Growth %</i>		150%	30%	308%		180%	180%
Cost of Sales*	158 €	394 €	512 €	2,087 €	3,150 €	8,820 €	24,696 €
Gross Profit*	293 €	731 €	951 €	3,876 €	5,850 €	16,380 €	45,864 €
<i>Gross Margin %</i>					65%	65%	65%
Operating Expenses*	450 €	450 €	450 €	450 €	1,800 €	1,800 €	1,800 €
EBITDA*	-158 €	281 €	501 €	3,426 €	4,050 €	14,580 €	44,064 €
<i>EBITDA Margin %</i>					45%	58%	62%
Investment & Financing*	3,000 €	169 €	219 €	894 €	4,283 €	3,780 €	10,584 €
Cash* (At End of Period)	-3,158 €	113 €	281 €	2,531 €	-233 €	10,800 €	33,480 €
<i>* in 000s</i>					-3%	43%	47%

Figura 7: Resultados financieros el escenario 1 del nuevo modelo de negocio de Wikicai

4. Conclusiones y próximos pasos

En primer lugar, los resultados y aprendizaje de este proyecto muestran el gran esfuerzo, iniciativa y pasión del equipo de Wikicai desde el nacimiento de la página en 2017. Durante todo este tiempo, la plataforma ha evolucionado y se ha sobrepuesto a numerosos baches y problemas, que solo han servido para hacer más fuerte el interés por seguir creciendo y expandiéndose, demostrando una gran resiliencia. Además, el equipo de Wikicai seguirá trabajando con pasión y racionalidad para conseguir los objetivos marcados por el plan estratégico elaborado en este proyecto, y sobretodo, para ayudar al máximo posible a todos los alumnos en sus estudios, ya que ellos son los verdaderos *stakeholders* del proyecto.

Analizando todo lo que ha sucedido desde que nació Wikicai, el cambio de modelo de negocio en 2019 ha sido un hito muy importante para la plataforma. Tanto de forma positiva, respecto al estado financiero, como de forma negativa, por la imagen social y desinterés de compra de los estudiantes, este cambio de modelo de negocio provocó una ruptura en la idea de negocio de Wikicai, pasando a tener un interés de crecimiento y penetración en el mercado mucho mayor. Tras dos años de acceso restringido, Wikicai volverá a ser de nuevo de acceso gratuito para todos los usuarios, pero lo será de la forma más eficiente, sencilla y económica posible.

La nueva versión de Wikicai aunara tres características clave, que son las responsables del éxito seguro de la plataforma: innovador, apuntes de calidad y filosofía *students-first*. Con esta combinación, Wikicai destacara sobre sus competidores directos, como Wuolah, con una mejor experiencia de usuario, diseño, manejabilidad y sobretodo, construido para los estudiantes, y no para los anuncios.

Por último, los siguientes pasos de este Proyecto requieren la realización de hitos muy importantes para la ejecución del plan estratégico, como la incorporación de embajadores, el desarrollo de la plataforma o la definición de la estrategia publicitaria. Estas actividades están recogidas y organizadas en el calendario de actividades principales desarrollado en la tercera sección del proyecto. Aún así, la organización no lo es todo, para conseguir triunfar en el mundo del emprendimiento dos cualidades intangibles son imprescindibles, ilusión, motivación y trabajo constante. Y en el equipo de Wikicai, de esto, tenemos mucho.

Wikicai's Business Case and Study of the Digital Note-sharing Spanish Market

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Collaborating Entity: ICAI – Universidad Pontificia Comillas

ABSTRACT

This project reports the history and development of the digital note-sharing business of Wikicai at Comillas University. It includes the analysis of the recent history of the company, an analysis of the main national and international competitors and the development of the new business model and business case for Wikicai. As a results, this project serves as the first stone in the way to launch a new version of Wikicai with greater potential to grow and expand nationally.

Keywords: Wikicai, Note-sharing, Digital, Subscriptions, Advertisement, Education, EdTech, Start-up

1. Introduction

During the summer of 2017, Francisco Dueñas, a Spanish student of Comillas University – ICAI, developed and launched the start-up called Wikicai. Wikicai is an online platform that shares all the hand-written notes that Francisco has elaborated throughout his career at the university. The website allows any student to register and access the content online from anywhere at any time and permits students to organize their work accordingly to the pace at the university, as all the materials in Wikicai are properly organized in the same way the teacher does in class.

The education industry has been growing the recent years massively as society has increased its implication on improving education of young people. Nowadays, different trends shape the industry and make companies adapt to the changing habits of their customers. This project analyzes these trends, which include digital transformation, increasing social inequalities, public funding pressures and the rising-importance of life-long learning.

Moreover, according to Euromonitor International [1], the whole education market size will grow by over 50% from 2019 until 2025, reaching a total market size of nearly 6 billion USD. However, Wikicai resides in a specific dimension of the education, which is part of the so-called digital transformation trend that is called within the education industry EdTech. EdTech is the group of initiatives and companies focused on the education market but with a core business proposal that sits on top of technology. Technology is right now the hot topic in every market, and the education is one of the industries that runs late on adapting to the new era.

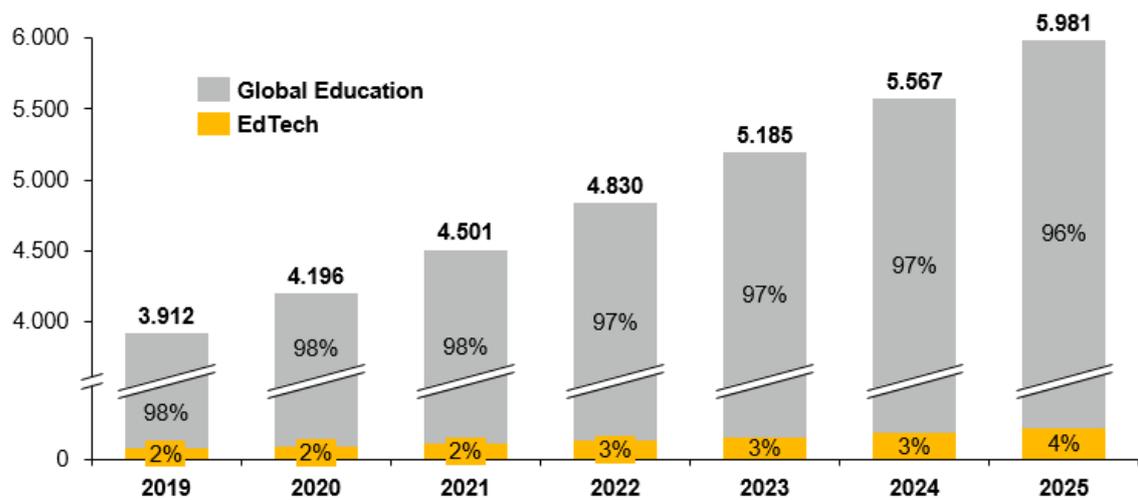


Figure 1: Global Education and EdTech Market Size comparison. [USD Billion]

As a result, Wikicai’s new launch will not only include refinement and corrections from the study of its history or from the analysis of its competitors, Wikicai will try to adapt and innovate from a technology point of view to utilize every existing tool in the market and to improve the user experience of the students while studying, which is the main goal of this project.

2. Project Definition

This project was triggered by the personal motivation and dream of Wikicai’s founder to develop and expand the business outside the current market, which only resides on ICAI at Comillas University. This willingness to grow and improve is the core value of the project and aggregates all the main objectives. Regarding these specific objectives, this project aims at attacking three important aspects of the business.

First, the project will define the new business model and strategy of Wikicai for the future years, trying to achieve the best business development possible and improving the quality of the service the company provides to students. Wikicai’s main value proposition when it was launched was to have the greatest notes in the market, and so, with the new business model, it aims at having the best user experience and learning for every student as well.

Second, Wikicai was born as a social initiative to help students learn and study more efficiently. With the new implementation, Wikicai will help students more than ever and most importantly, for free. Therefore, increasing the penetration of students and helping as many students as possible is a key objective for this project. Last, this project will also aim to achieve the first two objectives with the integration of technology, and therefore, there is a clear focus on technology innovation of the products Wikicai offers.

In the other hand, the methodology to perform this project is divided in three main parts. First, there is an analysis and explanation of the history of Wikicai. This part includes all the information regarding the launch of Wikicai back in 2017, the different capabilities that were built at the time and the developments that have been included until now.

Second, the project will focus on analyzing and researching the digital note-sharing market, both nationally and internationally. This research will serve as the foundation to be able to develop the new business model of Wikicai and innovate as much as possible with the existing ideas and technologies present in the market while utilizing the great experience gained by Wikicai's founders since it was founded.

Third, the project develops the new strategic plan for Wikicai in the future years. This strategic plan includes the business model of the company, the analysis of the business case and financials and the project management requirements to implement the plan in the future months. This preliminary strategic plan will evolve during the future months but will serve as the foundation for the update of Wikicai's business and will ensure the future growth of the company.

3. Research, Analysis and Results

As stated above, the research, analysis and results section of the project is divided in three main parts, which include: Evaluation of Wikicai's history and performance, Digital note-sharing market research and Wikicai's Strategic Plan definition.

3.1. Wikicai's History and Performance Evaluation

Regarding the history of development and launch of Wikicai, the business has had four major milestones throughout its history, starting from its launch in October 2017 and ending in an updated visual design for the website, which was launched in April 2020.



Figure 2: Timeline of developments in Wikicai's history

During the first stage of Wikicai's history, from October 2017 until January 2019, the business model of the company was to offer free access to the platform for any member, either student of ICAI, teacher or any external member who was interested in the content. Additionally, the platform didn't have any advertisement as the value proposition was focused on delivering the best experience to the customers as possible. However, generating revenues for the company was not a priority at the time and the main goal was to only recover investments via donations from some generous members. Those donations took place, but they were not sufficient to recover all costs and the business model of Wikicai had to change sooner or later.

This change of business model occurred in January 2019, when Wikicai renewed all its systems, website, servers and databases to serve their customers with a much better experience. Utilizing this improvement in quality and considering the losses during the first years, Wikicai created a business model where members could only access the content via paid subscriptions. These subscriptions were classified depending on the duration in months and gave access to different materials depending on the degree the students were enrolled in. Therefore, students could purchase the plan for each grade independently, where they could access all the materials of subjects that were taught in that year. Subscriptions are currently sold at 0.99€ per semester and can be purchased at any time during the year and as many times as needed per member.

However, not everything was solved after implementing the subscription model, there were two main problems that Wikicai had to fight with its clients. First, every student would like to download the notes, and if they could download them, some students would purchase all plans, download all the files and share them with their peers. Second, even if they cannot download files, one member could purchase the plan, share his credentials with his peers and all of them could access the content after purchasing just one plan.

To solve these problems, Wikicai implemented two technological solutions. First and most obvious, the platform was configured in a way that it doesn't allow members without master access to download documents offline. Furthermore, to solve the second problem, a tool called IP Tracking System was implemented to avoid members who would share their credentials with friends, and which makes every student buy a membership plan to access the contents.

Regarding this IP Tracking System, it is a tool based on JavaScript that creates an online database with the information of users and their IPs. In order to work, the tool compares the last IP and the current IP from which the user is connected and kicks out of the platform any user that is changing IPs recurrently. Changing from IP two times in one minute means that two different devices connected to different networks are accessing the website at the same time. This tool ended up being very efficient on reducing bad use of the website, as no one could access the website at the same time from different devices and with the same subscription credentials.

After the major change that occurred in January 2019, Wikicai conducted two more changes at the end of 2019 and during 2020. First, it changed the file servers due to a problem in December of 2019. Suddenly, the servers were down when traffic on the website was very high and Wikicai's founder decided to utilize that problem to update and renew the file management servers and content visualization tool. Additionally, during 2020, the website design was renewed to deliver the best user-experience possible and reducing complexity to find contents in the platform.

Last, this section also analyzes the results of the platform from an economical and from a traffic performance point of view. First, it's important to note that Wikicai had losses since it was launched in 2017 until 2019, when the new subscription model was established. Since then, Wikicai has generated annual profits of around 300€ with over 60% of profit margin, showing great potential to improve in the future if the base of customers grows. Second, from a traffic perspective, the website traffic shows great response to seasonality, based on the final tests periods. Overall, the website has had more than seven thousand users since 2018, and it has seen a decrease in traffic since the subscription model was established.

3.2. Digital Note-sharing Market Research

Following on, the project analyzes and performs detailed research of the digital note-sharing market. After having a first glance at the current trends in education, start-ups, technology and the mix of all of them with the introduction of the EdTech market, it is important to study what are the business models, value propositions and results of Wikicai's competitors or alike in other markets and countries.

Performing great research is fundamental, as the combination of the experience gained since Wikicai was launched in 2017 and the knowledge learned from this research is the base to elaborate and think through the new and best business model for Wikicai. This research is divided in two parts, as the first ones focuses on international and stablished companies while the second part is focused on Spanish start-ups, which are direct competitors of Wikicai.

Regarding international players in the market, the biggest and most interesting companies are StuDocu, CourseHero, Chegg and Nexus Notes. Out of these, CourseHero and Chegg are American, StuDocu is Dutch and Nexus Notes is Australian but all of them show similar patterns. All of them try to have and advertise themselves as the platform with the best content in the market, both in quantity and quality. Additionally, all of them started with similar objectives, which was to improve the student life and satisfaction at university. With respect to website design and visualization, which is very important to be able to offer a great product, Chegg and StuDocu stand out with respect to the others, with greater design, faster performance and an easier user-experience. Last, regarding financials and investments, StuDocu has a great presence and growth in Europe with over 1.3M€ in revenues in 2019. However, Chegg has expanded a lot in the recent years, offering a lot of different products such as online classes, books reselling and career orientation workshops. Chegg is publicly traded in USA and its market capitalization is currently over 11 billion USD with more than 320 million USD in revenues in 2019.

In the other side, DocSity and Wuolah are the main Spanish players, although DocSity was first launched in Italy, it later acquired Patatasbravas.es, which was the major player in the Spanish market. Wuolah in the other side is the biggest and most known current player in Spain and offers free content to all members thanks to its advertisement integration. However, although Wuolah business results are great, the user experience and the performance of the website is very poor given the high density of advertisements. Website design and content visualization is very poor and is not aligned with Wikicai's value proposition.

Last in this section, the project includes the analysis of Porter's Five Forces on the digital note-sharing market. Results show that the most important pillars to work on are suppliers, to acquire the best possible notes for each degree and university. After approaching and fighting for suppliers, customers are the second top priority. These customers are not represented by students, even though they use the content, but by all the companies that may buy advertisement spaces in the platform, as they are the revenue generators of the website.

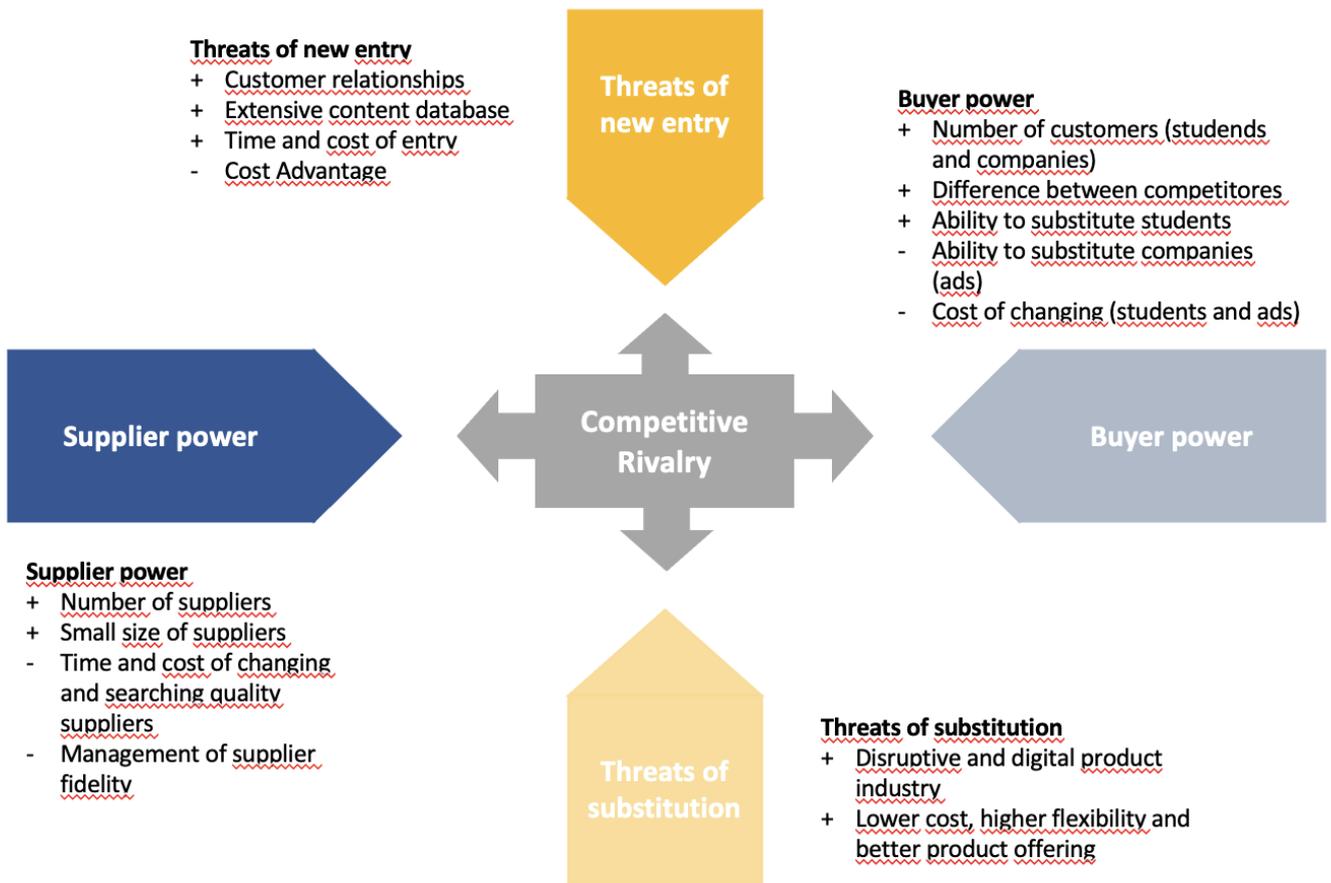


Figure 3: Porter's Five Forces analysis for market competitiveness

3.3. Wikicai Strategic Plan

Last, this project utilizes all the knowledge, information and experience gained in the research and analysis of Wikicai and its international and national competitors to develop and elaborate Wikicai's new business case and strategic plan for the future years. This strategic plan includes the elaboration of the new business model and its corresponding business model canvas. It also includes the updated value proposition and the project management requirements and calendar to satisfy and implement the new strategic plan on time. Last, a preliminary business case is elaborated to analyze the viability and expected profitability of the business in two different and realistic scenarios.

First, the new business model of Wikicai will change from a subscription-based model to a free access for any member. Thus, this change will massively increase the number of visits and the overall traffic on the website. As a consequence, however, there will not be any revenues generated from subscriptions, and instead, the new business model will try to utilize the increase traffic on the website to monetize its visits and gain revenues via personalized advertisements. These advertisements can be incorporated in certain spaces of

the website or even in the actual documents and notes and can be either automated via Google AdSense or assigned individually to certain companies.

Regarding the actual business operations, as extracted from the Porter’s Five Forces analysis, having great quality suppliers is key to achieve success in the market, and so, the business model considers an ambassador-based model where Wikicai has certain content managers for each university who will be in charge of procuring the best quality notes for students in their university. Thanks to this, Wikicai can achieve high personalization and quality to each university, as having general content for different universities or degrees has been proved to be insufficient in the market.

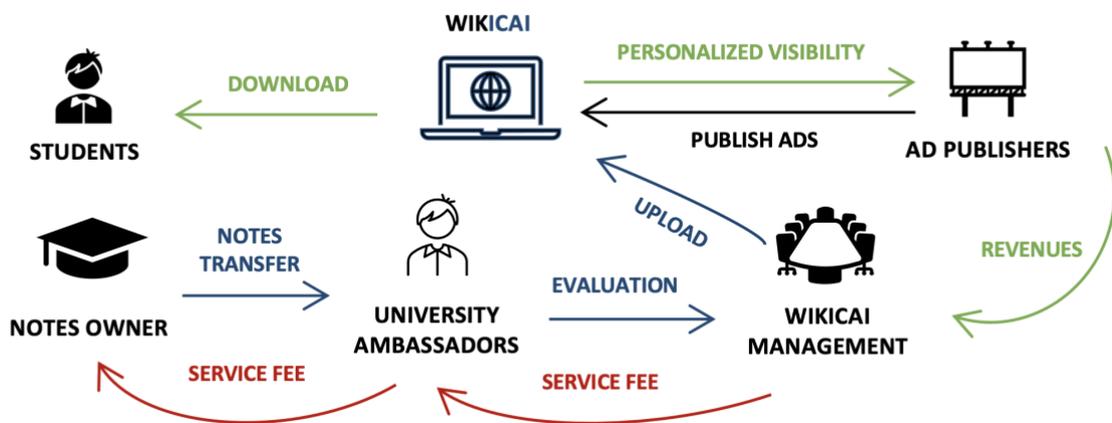


Figure 4: Wikicai new Business Model Workflow

Implementing the strategic plan correctly is key to have success in the market, and so, this section elaborates a high-level calendar and work breakdown structure of the main tasks to be performed in the future months by Wikicai’s management to prepare for a successful launch of the new version of Wikicai.

Main tasks are divided in five buckets and include tasks related to business strategy and operations definition, website development, content management, advertisement management and platform testing. First, business strategy definition entails part of this project, with the definition of the new business model, market entries and financial planning. Additionally, business operations definition refers to the development of techniques to optimize every-day operations at Wikicai.

Second, website development is, alongside the content management tasks, the top priorities and to-dos in the following months for Wikicai. It entails the development of the new platform and the implementation of all the capabilities required to satisfy Wikicai’s standards of user experience.

Third, acquiring the best content is key to attract as many students as possible. Therefore, a lot of effort must be spent in hiring the best potential content managers for each university. In turn, the better hires, the better content Wikicai will have, the greater visits growth the website will obtain and the bigger interest that companies will have to advertise themselves

in the platform. This circular analysis is one of the main advantages of the business model, as both suppliers and customers are gaining value through Wikicai.

Fourth, developing a smart advertisement strategy is very important given how dependent the business model is to revenue generation from advertised companies. Therefore, there is a lot of work to do regarding research and definition of product offerings for companies and technological development for personalized and automated advertisements. Additionally, Wikicai’s management will also have to work on company pitching, selling the product to companies which may be interested in Wikicai’s customer portfolio.

Last, to verify and ensure the performance of the website, a pre-launch platform testing is needed and must be verified by external users that will be invited to an early access of the website. During this time, implementations of personalized and automated advertisements will be tested.



Figure 5: Wikicai new business model WBS - Work Breakdown Structure

Regarding financial planning and the business case elaboration, this project has analyzed the past performance of Wikicai and the current variables in the market to project a high-level estimation of the profitability of the business. Indeed, this analysis suggests that the business will be profitable even in the lower-case scenario, where variables are more restrictive.

The financial plan has been built starting from the estimated monthly number of visits on the website based on the market size Wikicai is targeting at each time. During 2022, Wikicai will launch its business in ICADE, Cantoblanco and at Polytechnic University of Madrid. From the estimation of visits, the calculation goes top-down, estimating the generation of revenues based on variables such as CPC (Cost-per-Click) and CTR (Click-Through-Rate). Afterwards, the model estimates costs associated to either fixed activities like maintenance and development of the website or variable tasks such as content management and note owners’ fees. As a results, Figures 6 and 7 below show the estimated

variables for each scenario and the results for the low-case scenario, as a conclusion on the high profitability of the business in the near future.

		SCENARIO 1: Lower Case & Google AdSense	SCENARIO 2: Upper Case & Personal Ads
REVENUES	Visits growth	180%	220%
	CPC (Cost-per-Click)	1.00 €	1.50 €
	CTR (Click-Through-Rate)	2%	3%
VARIABLE COSTS	Fee per individual (% of revenue generated)	35%	30%
FIXED COSTS	Website maintenance and development fees (monthly)	150.00 €	250.00 €
	Platform initial development	3,000.00 €	3,375.00 €
OTHER COSTS	Other financing activities (w/r to Revenues)	15%	20%

Figure 6: Wikicai new business model variables based on Scenarios

SCENARIO 1							
	2022				2022	2023	2024
	Q1	Q2	Q3	Q4	FY	FY	FY
Visits (End of Period)	30,000	75,000	97,500	397,500	600,000	1,680,000	4,704,000
Total Ad Clicks (End of Period)	450	1,125	1,463	5,963	9,000	25,200	70,560
Revenue	450 €	1,125 €	1,463 €	5,963 €	9,000 €	25,200 €	70,560 €
Revenue Growth %		150%	30%	308%		180%	180%
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Cash* (At End of Period)	-3,158 €	113 €	281 €	2,531 €	-233 €	10,800 €	33,480 €
					-3%	43%	47%

* in 000s

Figure 7: Financial model results for Scenario 1

Overall, these business case results verify that there is a lot of potential in the market to launch Wikicai with the new business model. Results show cash margins greater than 40% since the second year of business, assuming that every year, thanks to launches in new universities, the growth rate will be at least around 200%. Having such high margins and profits empowers the team to keep working on the business model and the development of

the new platform and ensures that if any problem surges in the way, there is room in the back to respond.

4. Conclusions and Next Steps

First, this project shows the great effort and initiative applied by Wikicai's founder since the business was launched back at 2017. During these years, the website has evolved and developed a lot, and has been very resilient to changes, problems and external criticisms. In this matter, Wikicai will keep on working hard towards achieving the best experience for students, who are the at the end the most important stakeholders of the project. The feedback received from the students builds a great satisfaction and increases motivation to keep pushing forward in this journey.

Analyzing in detail Wikicai's journey, the change of business model in 2019 was key to sustain the platform development and growth. There was a need of revenues at the time to keep Wikicai alive, and the solution was perfect for the problem. However, the current situation of Wikicai's founder and the rising importance of online education makes it a great time to evolve again Wikicai's business and bring back free access to the platform to let any student utilize the content available. As there are a few players in the market, and to differentiate with them, Wikicai will bet on the best user experience and the best high-quality content possible, trying to outstand with personalized integration of the degree's syllabuses on the website.

As next steps, this project has given a great start on project management requirements to implement the new strategic plan of Wikicai, however, like any other entrepreneurship journey, motivation and hard work is the foundation for success and Wikicai's management team has a lot of both.

Table of Contents

Chapter 1. Introduction and State of Art.....	5
1.1. Introduction to the Tech Startup Industry	7
1.2. Introduction to the Education Industry	7
1.3. Edtech Market introduction.....	8
Chapter 2. Project Definition	11
2.1 Motivation.....	11
2.2 Objectives.....	12
2.3 Methodologies.....	13
2.4 Calendar and Financial Planning	14
Chapter 3. Research, analysis and results	15
3.1 Wikicai’s History and Performance Evaluation.....	15
3.1.1 Wikicai’s History Analysis	15
3.1.2 Business Model Evaluation	21
3.1.3 Cost Structure Analysis	24
3.1.4 Revenue Analysis.....	25
3.1.5 Marketing Strategy Analysis	26
3.1.6 Website Performance Analysis.....	27
3.1.7 IP Tracking System Analysis.....	32
3.2 Digital note-sharing market research	35
3.2.1 StuDocu Analysis.....	36
3.2.2 Course Hero Analysis.....	39
3.2.3 Chegg Analysis.....	41
3.2.4 Nexus Notes Analysis	43
3.2.5 DocSity Analysis.....	44
3.2.6 Wuolah Analysis.....	46
3.2.7 Overall Digital Note-sharing Industry and Market Analysis.....	50
3.3 Wikicai Strategic Plan Definition	53
3.3.1 Why Does Wikicai need a Change?	53
3.3.2 How Does Wikicai work?	54
3.3.3 Value Propositions of the new Business Model	58

3.3.4 <i>Business Governance</i>	59
3.3.5 <i>Project Management Strategy</i>	60
3.3.6 <i>Business Case Financial Modeling and Scenarios</i>	73
Chapter 4. <i>Conclusions And Next Steps</i>	79
Chapter 5. <i>Bibliography</i>	83
<i>Appendix I</i>	
IP Tracking System Code	85
<i>Appendix II</i>	
Ip Tracking System Database Example.....	87
<i>Appendix III</i>	
Wikicai Website Walkthrough	88
<i>Appendix IV</i>	
ODS – Sustainable Development Goals.....	92

Table of Contents: Figures

Figure 1: Global Education and EdTech Market Size comparison. [USD Billion]	9
Figure 2: Project preliminary calendar	14
Figure 3: Timeline of developments in Wikicai's history	15
Figure 4: Original and first version of Wikicai's website homepage	17
Figure 5: Wikicai's renewed file management system frontend.....	19
Figure 6: Latest homepage version of Wikicai website	20
Figure 7: Business Model Canvas for Wikicai actual business.....	22
Figure 8: Cost Structure Analysis of current Wikicai Business Model.....	24
Figure 9: Revenue Analysis of current Wikicai Business Model.....	25
Figure 10: Profit Analysis of current Wikicai Business Model	26
Figure 11: Historical chart of number of users per week at www.wikicai.com	28
Figure 12: Historical chart of number of page visits at www.wikicai.com.....	28
Figure 13: Geographical distribution of users at www.wikicai.com (Map).....	30
Figure 14: Geographical distribution of users at www.wikicai.com (Numeric)	31
Figure 15: IP Tracking System Workstreams Diagram	34
Figure 16: StuDocu website design and content visualization example	37
Figure 17: StuDocu smartphone application design and content visualization example ...	38
Figure 18: CourseHero website design and content visualization example	40
Figure 19: Chegg's website design and content visualization example	42
Figure 20: Nexus Notes website design and content visualization example	44
Figure 21: DocSity website design and content visualization example	45
Figure 22: DocSity financial performance analysis	46
Figure 23: Wuolah example of advertisement integration	47
Figure 24: Wuolah website and content visualization example	49
Figure 25: Five Forces Analysis for market competitiveness	52
Figure 26: Wikicai new Business Model Workflow	54
Figure 27: Wikicai New Business Model Canvas	57
Figure 28: Wikicai new Business Governance.....	60

Figure 29: Wikicai new business model WBS - Work Breakdown Structure	62
Figure 30: Wikicai's launch high-level calendar	72
Figure 31: Wikicai's visits growth with new business model	74
Figure 32: Wikicai new business model variables based on Scenarios.....	75
Figure 33: Financial model results for Scenario 1	76
Figure 34: Financial model results for Scenario 2.....	77

Chapter 1. INTRODUCTION AND STATE OF ART

This project is based on the start-up Wikicai, launched in October 2017 by Francisco Dueñas and managed by him since then. Wikicai is a private digital note-sharing platform built from scratch to allow students in ICAI, Comillas University to have first-class notes anywhere, instantly and for an affordable price. All the notes shared in the platform are handmade by the founder during his years as a student at ICAI. In the platform, there are currently more than 1000 notes of more than 30 different subjects, including theory, exercises, tests and laboratory examples.

The digital note-sharing market has been growing massively during the last years, thanks to the creations of several start-ups and initiatives around the world. Chegg.com and Coursehero.com are the biggest players in the digital learning segment, which are based in the USA and were the key pillar in the transformation and development of Wikicai's project during Francisco's stay at University of Maryland, where he developed the new business model and subscription platform to monetize the website and grow the top line of the business. Additionally, Wuolah is the major player in the Spanish market, with mostly the majority of the market share around the top universities in the country. The only exception is Comillas University, where Wuolah doesn't have any penetration and where Wikicai is the top player at ICAI.

Regarding financial and operational results, Wikicai has had more than one million visits since its origin, creating a huge amount of traffic on the website that enables the possibility of monetizing the project via advertising. Additionally, Wikicai is now modeled by subscriptions, creating revenues via client's recurring payments, which have increased over 30% YoY.

The scope of this project is the study of the history of the platform, showing how it was built from a business and technological perspective. Additionally, the project studies the

results of the business so far, alongside identification of its strengths and weaknesses, while also addressing possible improvements and development opportunities for the future. Indeed, future developments include development of a new business model, analysis about the inclusion of advertising, social activities implementation and market expansion to other universities, cities and segments of education. Specifically, the structure of the analysis in the project is divided in three major parts:

1. Study of Wikicai's history and performance
2. Digital note-sharing market research
3. Business Model definition and Go-to Market Business Case

1.1. INTRODUCTION TO THE TECH STARTUP INDUSTRY

Digitalization of business has change in the recent years the way to create and build new business. As the Global Entrepreneurship Monitor 2020/2021 Global Report [1] states, tech startups have grown between 2007 and 2016 nearly by 50%, which means that year over year the importance of cloud services, open-source software or automation is starting to be considered as a cross player in many industries. Specifically, tech startups can be considered “cross” as they play a major role in several industries, which may also be very different between each other. For example, cloud tech startups have a massive impact in the banking industry as well as in educational environments, serving then as an enabler for any digital transformation.

Regarding Spanish start-up numbers, global investments in the sector has reached a constant of around 1 billion euros during the last years based on José Torrego’s analysis in “*The Evolution of Investment in Spain 2019-2020*” [2]. A major part of that huge investment is focused on tech-related startups, from FinTechs to PropTechs or pure tech startups. In this sense, Wikicai is approaching the segment of Edtech startups, which focus innovation to the educational market.

1.2. INTRODUCTION TO THE EDUCATION INDUSTRY

The education is the most important pillar behind Wikicai’s existence. Education is at the end the foundation and the biggest investment every individual should make as soon as possible to assure and build-up success in the future. In the modern world, education is now so standardized that a lot of students do not know why they are studying, they are just studying. For this reason, a lot of new solutions to improve the education system are being launched, trying to give students the focus and knowledge on why it’s so important to enjoy studying.

Regarding these new initiatives in the market, there are four major trends that are shaping the current state of the industry and the most important companies in the world:

-
- **Digital transformation:** Covid-19 has caused an enormous wave of **IT investments** in the industry, rapidly expanding the **EdTech market**, which will grow exponentially in the foreseeable future.
 - **Increasing social inequalities:** Breach between rich and poor segments in society is widening, causing less capable families to make bigger sacrifices to have high-quality education. Moreover, digitalization is leaving behind a lot of students without internet access.
 - **Public Funding Pressures:** Due to high cash injections performed by governments to fight the Covid-19 financial crisis, analysts estimate that Education budgeting will be very pressured in the future, compromising the quality gap between public and private education.
 - **Rising-importance of life-long learning:** Derived from digitalization, Covid-19 financial crisis and over-education of some segments of society, everyone will increase their focus on acquiring life-long learning and be differential from the rest.

The education market has nowadays a global production value of 3.912 billion USD annually, which places the industry in Top 20 producing industries worldwide. Being massively hit by the Covid-19 during 2020, the Education is expected to recover 2019 levels in 2021 and will grow at +7% CAGR 2020-2025. In the global education market, as stated in the report *Global Overview of the Education Market* shared by Euromonitor, China is the biggest global producer, followed by United States and Germany. Overall, the top 20 countries accounted for more than 78% of global education turnover in 2020.

1.3. EDTECH MARKET INTRODUCTION

The Technology Education market (EdTech) consists of the aggregation of businesses that leverage technology to improve the global educational landscape in the society. It includes education at any level, from schools to universities or special education centers.

Out of total 3.912 billion USD generated in the global education market, the EdTech market accounted for only 75 billion USD in 2019 although it is expected to grow at 19.9% CAGR between 2020 and 2027. Given this growth, the EdTech market will increase its penetration in the market from 2% to more than 4%, as it is shown in **Figure 1: Global Education and EdTech Market Size comparison.** [USD Billion] below.

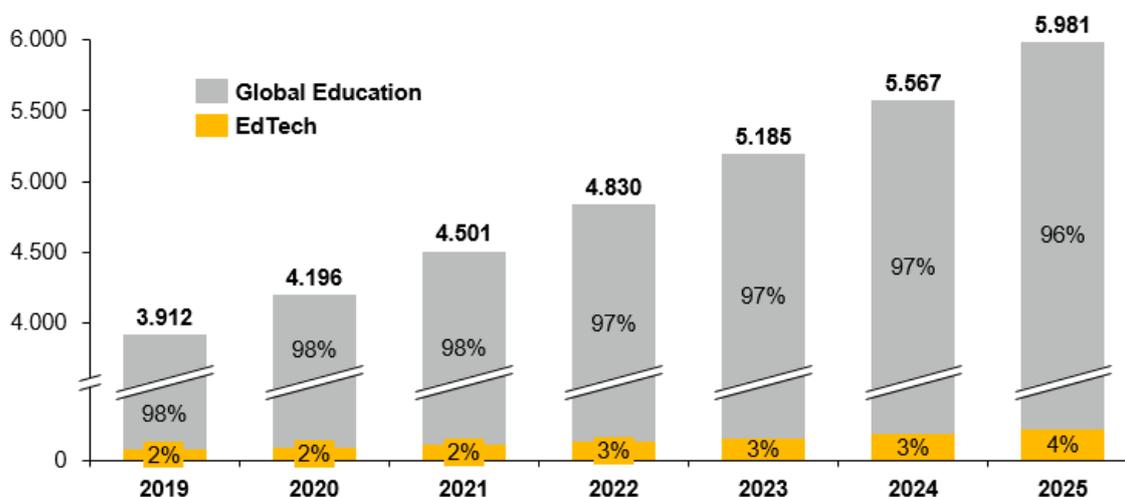


Figure 1: Global Education and EdTech Market Size comparison. [USD Billion]

As a technology focused market, there are lots of different ideas and implementations around the globe, however, the most influential and used in the market are based on technologies such as Artificial Intelligence (AI), Internet of Things (IoT), Augmented Reality (AR) vertically integrated with new business models based on online product offerings.

Regarding actual companies in the market, there are major players in the market that are trying to consolidate themselves as market leaders. As previously mentioned, the biggest rival of this project is Wuolah. Wuolah is a startup founded by four students back in 2015 in Seville. Nowadays, they state to have around five hundred thousand students utilizing their services, being Universidad Complutense their biggest market. Now, they are funded by Andalucía's government and the famous startup accelerator Lanzadera, owned by Juan Roig.

As per the services offered, they focus on the distribution of notes uploaded by specific members and downloaded by the rest of the community. Afterwards, members who obtain a threshold of downloads are paid proportionally thanks to advertisement introduced in each of the pages uploaded, having distributed, based on their information, more than one hundred thousand euros since the initiative started.

Apart from Wuolah, there are other initiatives that are in hold in the market, such as Clickn'Print Apuntes. Click n' Print is a startup which main business is to offer delivery of document printing. However, it has recently created a tool in their website to share university notes, although there are not files in it yet.

In the USA, as previously mentioned, CourseHero.com and Chegg.com are the biggest players at the university level. They are much more mature than any other business like Wuolah, with more than fifteen years of maturity in the industry. These players leverage the size of American education, which is the largest and most prestigious in the world. On top of offering study documents, their platforms also include textbooks and online tutors. Differently to Wuolah, which business is dependent on advertisement, monetization of American EdTech companies is based on subscriptions and payments to access services

Chapter 2. PROJECT DEFINITION

2.1 *MOTIVATION*

This project is motivated by Wikicai's founder personal passion for entrepreneurship and education. Wikicai was founded when Francisco was only 19 years old, powered by his willingness to help friends and peers in the university. Thanks to that idea of impacting positively society, Wikicai's management has been a journey of business knowledge and learnings. From a technological perspective, building the website capabilities, managing marketing campaigns and customer interactions to a business perspective while developing a business model, managing investments and prioritizing new initiatives.

Therefore, this project is the key stone Wikicai needs to elevate a step further into a strong and stablished startup in the digital note sharing market. First, gaining a detailed understanding of the market, the competitors, barriers to expand and customer behavior. Second, it will deliver a detailed study of the required services to be built and offered, accounting for investment required and building an overall business case for the company.

Additionally, the study throughout this project will enable Wikicai to have enough contents, knowledge, and power to consider external funding, leveraging results obtained in the past, the new innovative business model and backed up by a detailed business case of the company.

2.2 OBJECTIVES

Project objectives are totally aligned with Wikicai's objectives and required improvements, which are split in three main buckets: business development, social impact and technology innovation. Most importantly, these buckets are not sufficient by their own, as the combination of them is what will give the project the expected point of view to transform and catapult Wikicai to the top of the digital note-sharing market.

- **Business development**

Wikicai's growth and business development is the main initiative to consider when performing this project. The goal is to address market expansion, aligning the new business model to help the company grow faster outside the current market, which has been the key disadvantage of Wikicai's business in the past. This project will propose a phased market expansion, studying different options and scoping the best response to competitors.

- **Social impact**

Wikicai was built thanks to a social initiative to help students at Comillas University, and so the new business model must be aligned with the main goal of achieving a great social impact in the educational world. This project will constantly challenge any innovation and proposal from a social point of view, always looking for the best impact possible, improving the quality of the education of Wikicai's clients. Additionally, this project will be shared and presented to anyone looking forward to making a great impact in the digital educational market.

- **Technology innovation**

As expected, to make Wikicai a leading digital note-sharing player, technology needs to be in the center of the business. Leveraging technology to improve the business is no longer sufficient, and therefore, this project will focus on adopting a great technological business model, with innovative tools and requirements to satisfy customer behaviors and achieve a competitive advantage compared to the rest of players in the market.

2.3 *METHODOLOGIES*

To execute the project, there must be a clear planned path to follow. In general, the project will be structured in three different parts:

1. Study of Wikicai's history and performance

In this section, the latest performance, both financially and operational, will be studied to assess what are the strengths and weaknesses of the business. Knowing where the company sits right now in the market is key to ensure future success and growth, and therefore, this section is important to assess the current state of Wikicai and to enable next steps of the project to be fundamentally based on where Wikicai is at the moment.

Having great visibility and a decent baseline on where the company is at the moment is very important to drive forward the project, and focus the new innovations, implementations and business model to the weaknesses shown in the past. Launching a company being already aware of how the market works and having a clear understanding of the company and clients is a very big advantage that this project will utilize.

2. Digital Note-sharing Spanish market research

Following on with the study of Wikicai, the project will focus on the digital note-sharing market research and assessment. Once again, perfectly understating the market where a company is going to play is the key to success. Therefore, there will be a lot of work to acknowledge the state of the market, the existence of competitors and their value proposition. Additionally, this section will also ensure a clear understanding of the client requirements, trying to assess how the supply and demand balances in the digital note-sharing market.

3. Wikicai's Business Case development

Last, the project will elaborate the business case for Wikicai's future developments and launch. It will utilize findings from the first two sections and will also focus on elaborating

and explaining the new business model, centric to technology and made for the clients. This section will also include the elaboration of pitchbook, and other materials required to present Wikicai to external stakeholders. Furthermore, the business case will include a detailed financial analysis, considering investments required and market findings from the second section.

2.4 CALENDAR AND FINANCIAL PLANNING

In order to organize all the initiatives and analysis required to extract as many conclusions and insights from this project as possible, the work was organized in different stages, based on the main parts of the project. A high level and estimated calendar planning can be checked in **Figure 2: Project preliminary calendar** below.

TASK	WEEKS												
	31-May	7-Jun	14-Jun	21-Jun	28-Jun	5-Jul	12-Jul	19-Jul	26-Jul	2-Aug	9-Aug	16-Aug	23-Aug
PROJECT SCOPING	- Research and structure of the project												
WIKICAI'S HISTORY & PERFORMANCE	- Tech Startup and Edtech market research												
	- Wikicai's history analysis												
	- Business model study and analysis												
	- Revenue and Cost structure analysis												
DIGITAL NOTE-SHARING MARKET RESEARCH	- Website performance and marketing strategy												
	- Global Market Overall Research												
	- Spanish University detailed analysis												
WIKICAI'S BUSINESS CASE DEVELOPMENT	- Business Model development												
	- MVP, Advertisement and Marketing strategy												
	- Business Case and Financial Analysis												
PROJECT CLOSING	- Investors management												
	- Presentation materials & fine-tuning												

PRELIMINARY PRESENTATIONS



Figure 2: Project preliminary calendar

Regarding financial planning and investments required, the elaboration of this project will not need any spending at all, as it is mainly qualitative analysis of the history of Wikicai, and a business plan elaboration for the future. However, this project will indeed consider and calculate investment required to follow the plan and implement the business plan.

Chapter 3. RESEARCH, ANALYSIS AND RESULTS

3.1 *WIKICAI'S HISTORY AND PERFORMANCE EVALUATION*

Since Wikicai was launch back in October 2017, a few new implementations and transformations have happened, both from a business model and technological perspective. Following on, a detailed revision of each of the stages in Wikicai's history will be analyzed, showing at each moment what was the business model in application, what were the website implementations and what were the overall performance results for the business, highlighting strengths, weaknesses, and objectives at each phase.

3.1.1 WIKICAI'S HISTORY ANALYSIS

As shown in **Figure 3** , a high-level timeline of Wikicai can be explained with four major milestones, starting in October 2017 with the launch of the business and ending in April 2020 with the development of the last major initiative. However, between those two important dates, in January 2019 Wikicai launched its second version, including the biggest change to the business. Last, in December 2019, all the servers of the platform were changed, improving operations of the business.



Figure 3: Timeline of developments in Wikicai's history

1. Wikicai v1 – October 2017

The first version of the business was launched in October 2017, while Francisco was pursuing his second year at university. He developed the idea during the 2017 summer, building the business model, managing the materials to upload, and developing the website.

Based on the nature of the stage in the business, the main objective at this point was to grow the penetration in the business as much as possible, having as many students as possible using the platform and trying to build a recognition around the university for the notes. In this sense, the business model was oriented to comply with that objective, and so, the platform had free access for any student that registered on the website. Anyone was able to use the content in the platform freely, without being able to download the documents. This point had huge controversy in the beginning, as many students are used to study with printed or handwritten notes. However, Wikicai could not risk the most valuable asset of the business, the notes. Therefore, despite the numerous complaints of members, the website wouldn't let members download any materials which in turn made the traffic increase massively week over week as all the members had to use the platform constantly while studying. Last, revenues of the business were considered as a second priority in this first stage, enabling members to donate thanks to a built-in tool, but being aware there were going to be losses during this first growth stage.

Regarding the design and development of the website, it was oriented to achieve the best customer satisfaction possible, without including advertisement, being easy to use and with friendly visuals. Additionally, in this stage, social network accounts were built in Instagram and LinkedIn, trying to boost the advertisement and penetration of the business in the university.

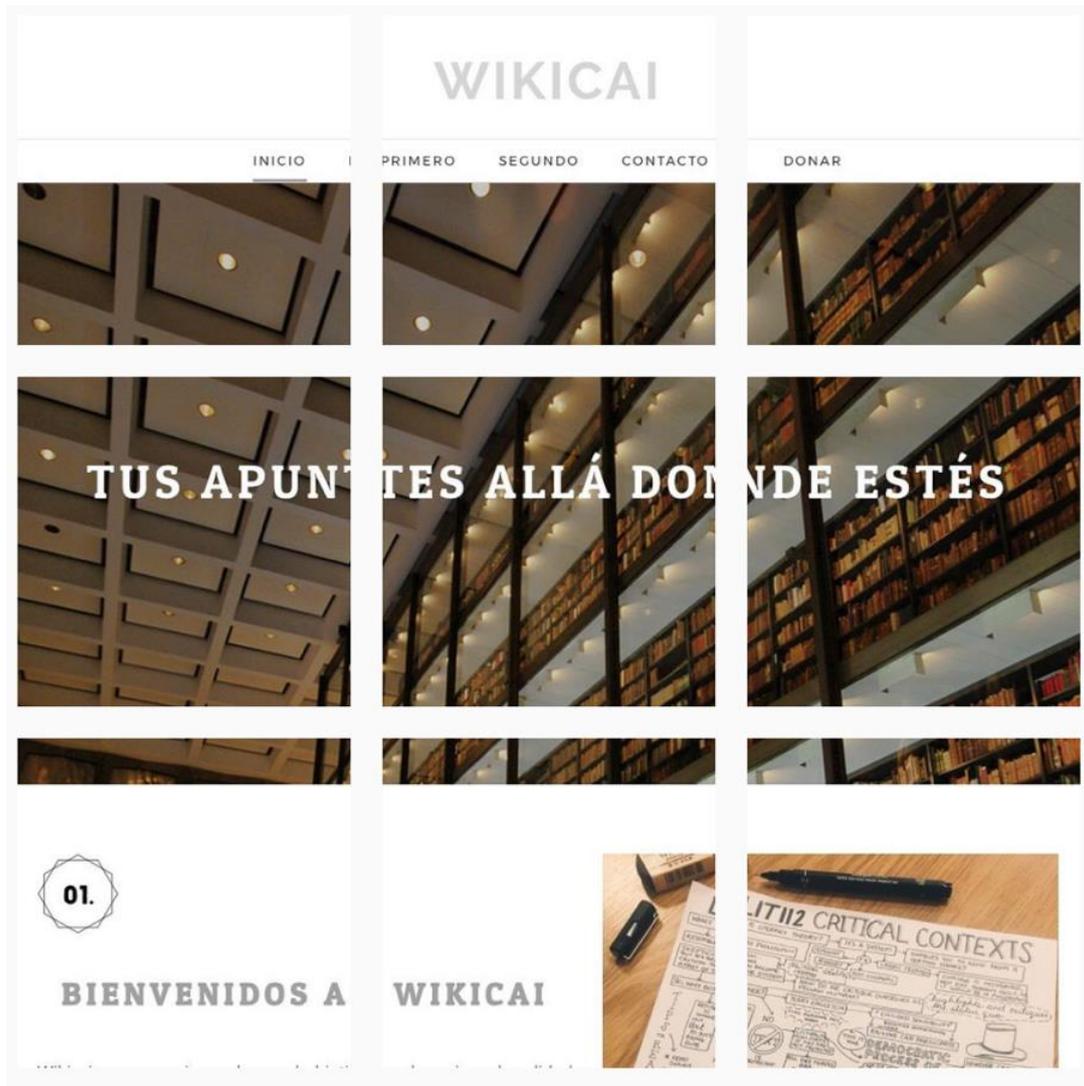


Figure 4: Original and first version of Wikicai's website homepage

Last, analytics during this timeframe are not available until March 2018, as the Google Analytics add-in was not implemented and utilized on the website before. In turn, results for the launch of Wikicai are difficult to measure, but data suggests that the volume of visits during the first year was big, reaching over one hundred thousand visits between October 2017 and January 2019.

2. **Wikicai v2** – January 2019

In August 2018, Francisco embarked in his new adventure to United States, where he studied in University of Maryland for the whole year. While being there, he got to know educational platforms used in the country and learned a lot about the business models that those platforms were using, gaining thousands of clients and very high revenues. Thanks to these learnings, Francisco decided to change Wikicai's business model and evolve the company one step further. Wikicai's website was built new from scratch, aiming to be simpler and easier to use, and utilizing new servers for faster loading of the content. However, the most interesting change was regarding the strategy to generate revenues. Wikicai transferred from a free access business model to a subscription-oriented platform, where users had to pay a monthly fee to access the content unlimited for that period of time. This change had two important implications; in one hand, top line of the business was dramatically improved with the inclusion of a sustained revenue generator, however, in the other hand, the traffic amount and number of subscriptions were reduced due to the exit of clients with willingness to pay of zero euros.

These implications were analyzed and studied thoroughly, trying to scope the supply and demand curve of the business, and performing a pricing model decision to try to capture as much profits as possible. In this regard, the cost structure of the business is purely a fixed cost based, and therefore, the more customers, the more value captured.

3. **File Server Update** – December 2019

Later on that year, during the final exam period of the year, the servers of the website crashed, leaving clients without access to all the content when they needed it most. Therefore, the servers were urgently updated, leveraging a SaaS solution incorporating a Google Drive add-in on the website. The problem with servers ended up being a solution, as

loading times were massively reduced with this change and the visuals of the website also improved with a simpler and minimalist design, based on Google Drive's theme.

In **Figure 5**: Wikicai's renewed file management system frontend new visuals and application of the servers can be checked, noticing the enhancing design and easy-to-use tool to select different resources.

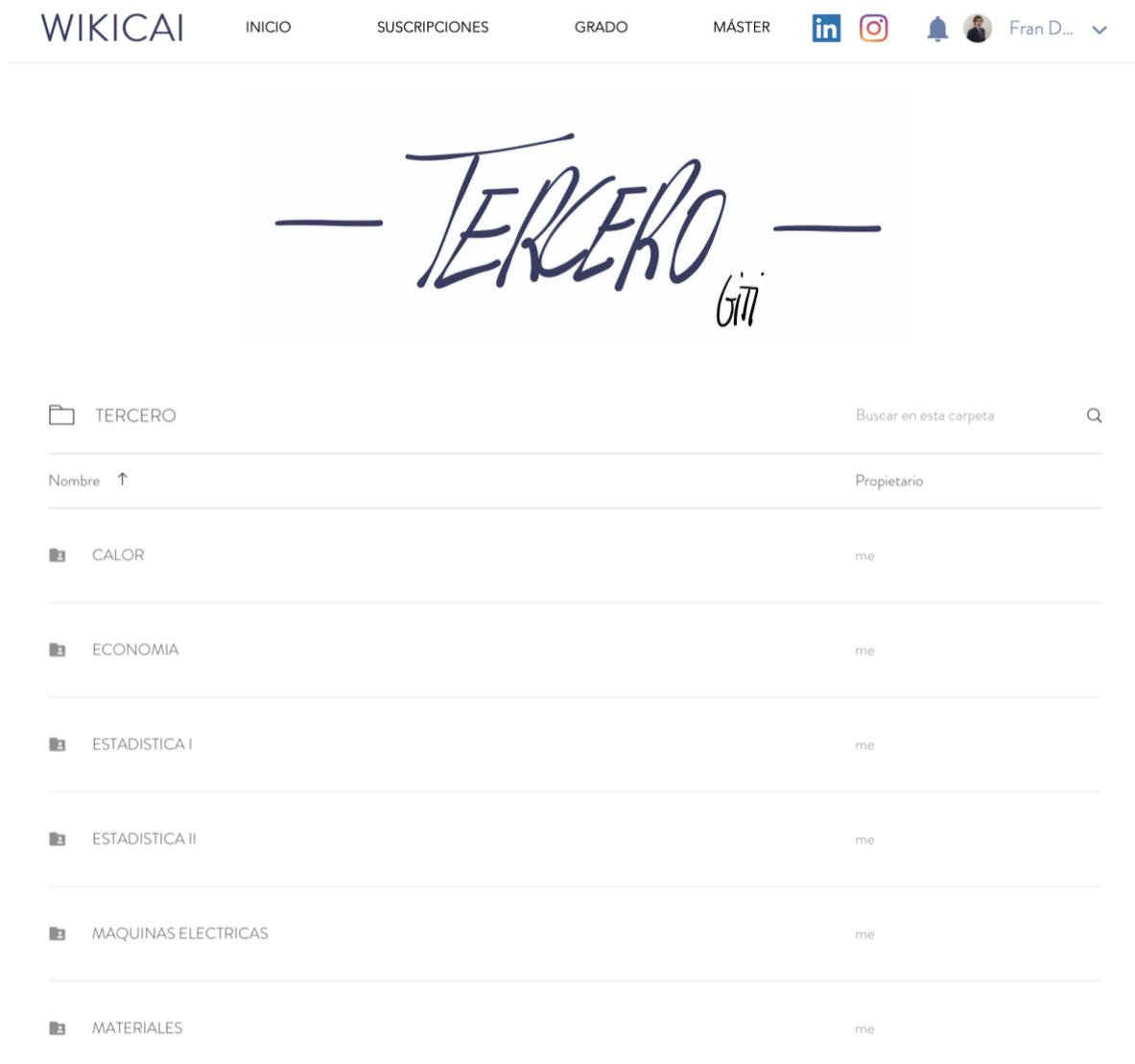


Figure 5: Wikicai's renewed file management system frontend

4. Wikicai v3 – April 2020

Last in the timeline of changes sits a revision of the website done during the Covid-19 lockdown. During this time, the website was renewed with minimalist visuals, faster response overall and instructions on how to use the platform for new users. Most of the questions raised in the Customer Service mail were related to subscriptions and were easily solved by displaying important points on how to use the website.

WIKICAI INICIO SUSCRIPCIONES GRADO MÁSTER    Log In

— WIKICAI —

APUNTES ONLINE DE CALIDAD
A TU ALCANCE

¿Qué es Wikicai?

Figure 6: Latest homepage version of Wikicai website

3.1.2 BUSINESS MODEL EVALUATION

Following on, the study of the current business model will be shared, supported by its correspondent business model canvas. Thanks to this study, main conclusions and insights to improve the business towards the new revision can be extracted and utilized. Therefore, having a detailed analysis of the current situation will be leveraged to create a better business model for the next version of Wikicai.

The business model canvas can be checked in **Figure 7** below, splitting where applicable insights for different client segments, such as students and teachers. Later on, strengths and weaknesses will be shared, displaying possibilities to improve in the future.

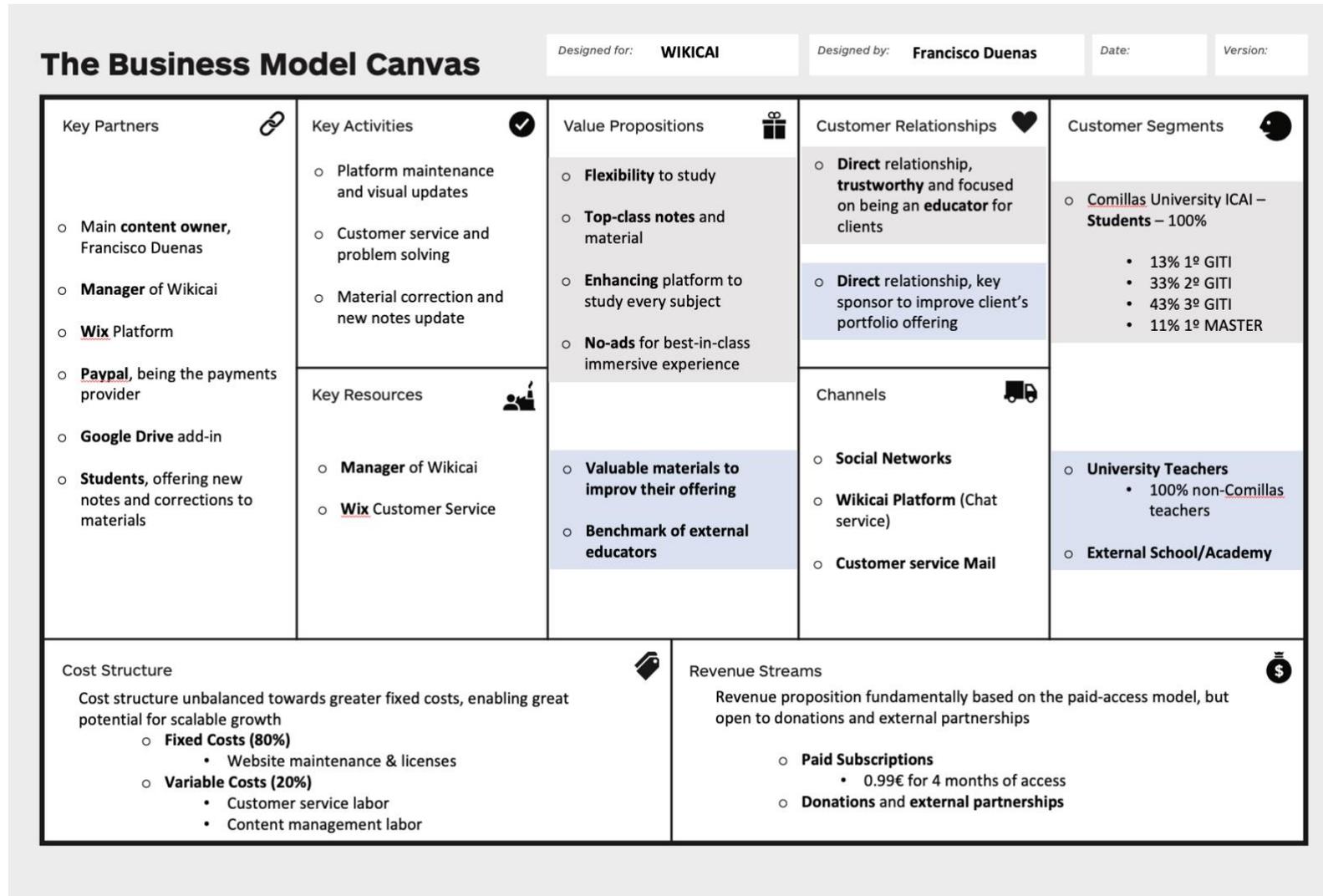


Figure 7: Business Model Canvas for Wikicai actual business

Regarding strengths of the current business model, it is easy to notice that the business is built around the client, trying to make their experience as best as possible, without having ads in the platform, with a very low fee for access and with very direct content uploaded especially for the customers. Furthermore, the customer service has been a great initiative in the business, improving massively the quality of the service delivered. Looking at recent data statistics, customer service responds within 24 hours after the request is submitted and has resolved over 90% of the issues raised in the same timeframe.

Moreover, the quality of the content is a key strength in the actual business model. All the notes have been revised and developed personally, making sure that clients have the product they are looking for. Knowing the customer segments present and that most customers are in the third course of Comillas ICAI opens the door to this business model to carefully select the best notes and material for most of the clients.

Another strength of the current business model is the fixed and low-cost structure of Wikicai. Most of the cost stand for the website platform given that all the materials are made by the owner and therefore Wikicai does not have to incur in any cost for sharing them.

In the other side, these strengths are followed by a couple of weaknesses that make Wikicai unable to grow and improve at the rate it should. First, the structure of the revenue system, focused on subscriptions and no-ads for better experience takes out of target all customer with a willingness to pay of zero euros, which unfortunately, given the culture of Spaniards, they are a lot. Secondly, as all the notes and materials uploaded are carefully reviewed and developed by Francisco, there is a weak market penetration outside University of Comillas, and leaving the competition (Wuolah) with an enormous advantage to be the only player in the biggest university in the country.

These weaknesses have been the key in the decision of taking a revision of the business, trying to solve them and grow Wikicai massively in the future years. In this direction, the new business model and business case will be developed and shown in a later stage of this report.

3.1.3 COST STRUCTURE ANALYSIS

As mentioned previously and in the business model canvas, the cost structure of the business is very related to fixed expenses, as the main cost of Wikicai is the technology of the platform itself. The detailed analysis of costs is shown below, where it can be seen that 100% of the cost are fixed, given that the work performed for customer service and content management is unpaid, as it is performed personally by Wikicai's manager. The analysis below considers the business to be constant in terms of the platform, marketing and contracts with the server supplier. It also considers that the 100% of labor will still be handled by Francisco without any associated payment. Last, it is important to mention that the projected results for 2022 are considering how the business is expected to go without any major change.

Cost have been constant throughout the last years, with stable contracts with the website and server provider, alongside a constant investment in marketing, which will be analyzed later on. However, as customer segments are very focused in Comillas University, investment in marketing has been very low during the recent years, corresponding to just around 10% of the total cost of the business.

COST ANALYSIS				
€	2019	2020	2021	2022
TOTAL COSTS	165	162	162	193
FIXED COSTS	165	162	162	193
- Website Licenses	22	18	18	27
- Platform Servers & Maintenance	123	123	123	136
- Marketing Campaigns	20	20	20	30
VARIABLE COSTS	0	0	0	0
- Content Management Labor	0	0	0	0
- Customer Service Labor	0	0	0	0

**Labor accounts for 100-120 hours of work annually in average and are performed by the Founder*

Figure 8: Cost Structure Analysis of current Wikicai Business Model

3.1.4 REVENUE ANALYSIS

Regarding revenues in the past years, Wikicai has generated a total of 1435 euros between 2019 and 2021, with annual growths of over 75% in 2020 and around 10% in the following years. Revenue source is totally composed by the payments of subscriptions by each client. Payments are usually received in three stages, at the start of each semester and June, just before the second final exams period. Once again, the projected growth for 2022 considers the expected performance of the business if no changes were made.

As it can be seen, an important change in the pricing strategy was performed, trying to increase the number of clients and subscriptions overall by decreasing the cost per subscription. Results found confirm the strategy was correct, although the increase in subscriptions wasn't enough to balance the loss in revenue generation by the cost of the service, and therefore the total revenue decreased by 13% in 2020. However, the total revenue would be again in 2019 levels during 2022, where it is supposed to reach revenues of over five hundred euros.

REVENUE ANALYSIS				
€	2019	2020	2021	2022
TOTAL REVENUES	507	442	486	534
Number of subscriptions sold	255	446	491	540
Average subscription cost	2	1	1	1
		-13%	10%	10%

Figure 9: Revenue Analysis of current Wikicai Business Model

As a result, the following profit analysis is extracted from the previous cost and revenue generations. Results show that profits have been positive since 2019, with a profit margin of around 60% every year.

PROFIT ANALYSIS				
€	2019	2020	2021	2022
TOTAL PROFITS	342	280	324	341
TOTAL REVENUES	507	442	486	534
TOTAL COST	165	162	162	193
<i>Profit margin</i>	67%	63%	67%	64%
<i>Profits growth</i>		-18%	16%	5%

Figure 10: Profit Analysis of current Wikicai Business Model

3.1.5 MARKETING STRATEGY ANALYSIS

During the existence of Wikicai, marketing campaigns were focused on creating brand acknowledgement in the university. As the client scope is only focused in the same Comillas University, marketing output is very limited, and so the strategy was to not invest resources on it.

Initiatives to increase market acknowledgement of Wikicai's offering were mainly focused in two different vehicles:

- University fliers
- Promotions and discounts in social networks
- Student representatives

In this direction, marketing campaigns have remained since Wikicai was launched. More focus was invested when important changes or milestones were achieved, where activity in social networks increased to let clients know new offerings or services. Social networks indeed are represented majorly by Instagram, in which Wikicai has over 380 contacts.

3.1.6 WEBSITE PERFORMANCE ANALYSIS

Following on, we will study the performance of the website since Google Analytics was established as an add-in the website. It's important to note that this add-in and tracking methodology is not totally accurate and relies massively in the website server provider. This section will include analytics regarding users count, visits, geographic statistics and more.

Starting with the count of users and visits in the past months, **Figure 11:** Historical chart of number of users per week at www.wikicai.com and **Figure 12:** Historical chart of number of page visits at www.wikicai.com show the following results.

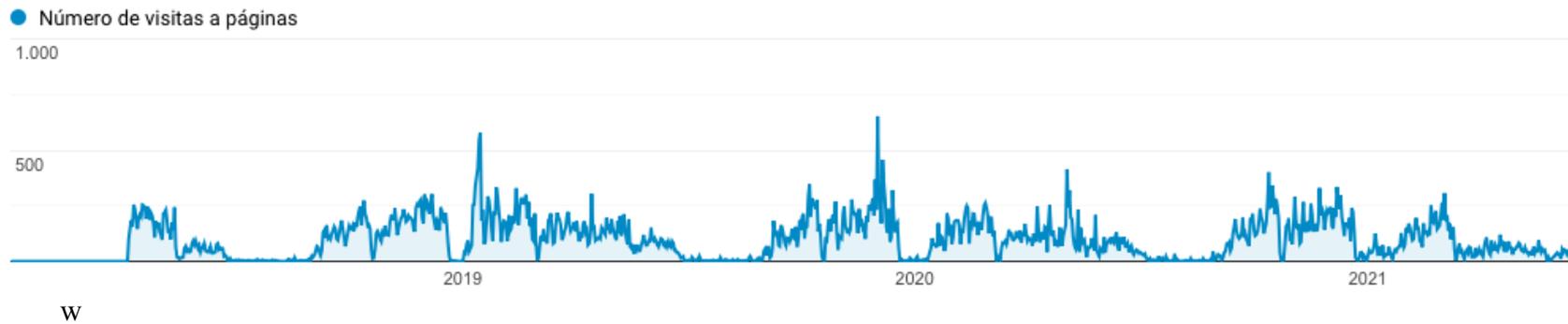


Figure 12: Historical chart of number of page visits at www.wikicai.com



Figure 11: Historical chart of number of users per week at www.wikicai.com

First, the summer is noticeable each year representing the lowest trend in the chart every year during three or four months. Second, a big decrease in users happened at the start of 2019, just in the time when the business model of Wikicai was changed and access to the platform was no longer free for all customers. Third, different spikes during the year peak in the most demanding weeks for students, that are right before Christmas and summer.

Regarding pages visits, there is a slight change in the trend, showing that customers generate more traffic with the new business model and website visuals than in the past. This could be thanks to the implementations performed on the website during 2019. Furthermore, Covid-19 has also affected the results of this analysis, as students changed their way of studying and the university handled a lot more visual contents, making it easier for students to have materials of good quality without relying on Wikicai.

Figure 13: Geographical distribution of users at www.wikicai.com (Map) below shows the user distribution around the world, where we can notice that there were a lot of visits in foreign countries. This conclusion could be based on the fact that Comillas University has a lot of students abroad, and that they may need to access Wikicai to check some content or materials from previous courses or subjects they had.

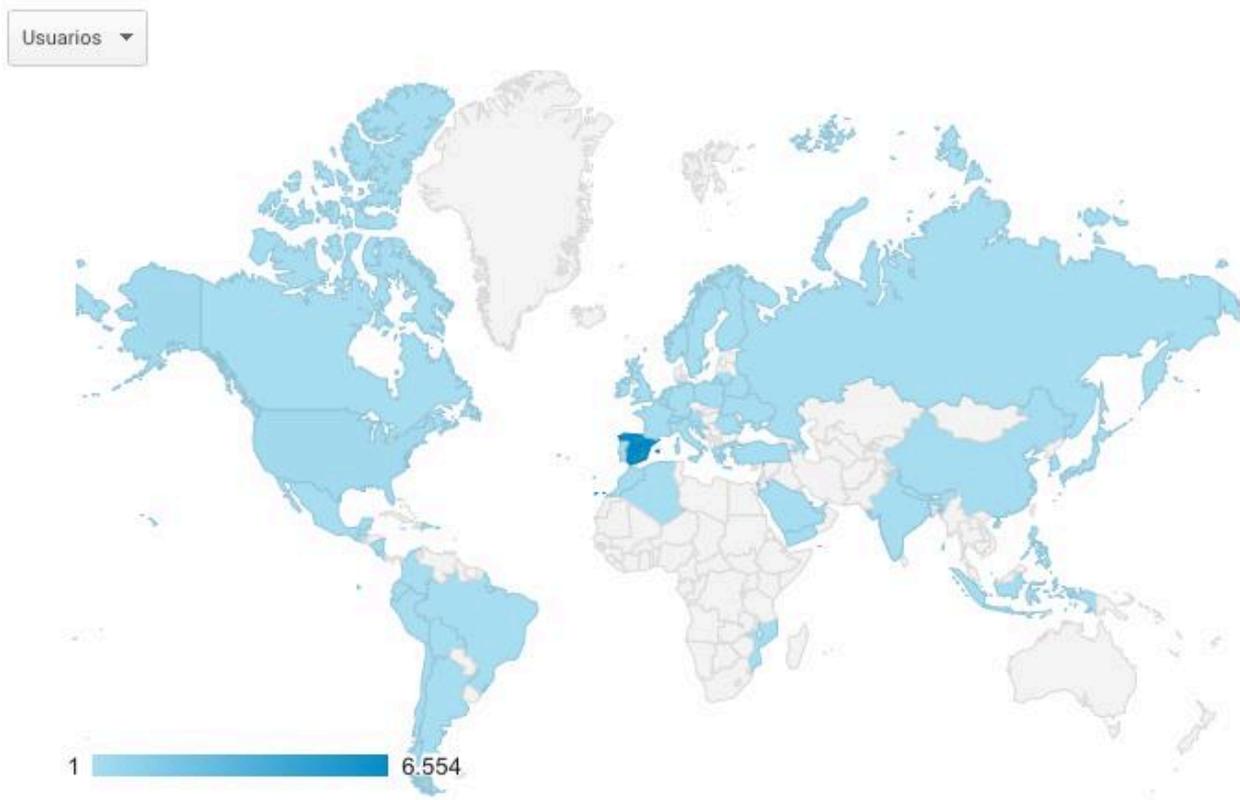


Figure 13: Geographical distribution of users at www.wikicai.com (Map)

Last, in **Figure 14** we can check the city distribution of users, that are very focused around Madrid, as expected, but that have high incidence in other cities like Barcelona, Seville or Málaga.

Ciudad		Usuarios	Usuarios
		7.094 % del total: 100,00 % (7.094)	7.094 % del total: 100,00 % (7.094)
1.	Madrid	5.379	64,04 %
2.	Pozuelo de Alarcon	471	5,61 %
3.	(not set)	453	5,39 %
4.	Alcobendas	183	2,18 %
5.	Barcelona	126	1,50 %
6.	Las Rozas de Madrid	112	1,33 %
7.	Seville	102	1,21 %
8.	Malaga	63	0,75 %
9.	Valencia	58	0,69 %
10.	Tres Cantos	41	0,49 %

Figure 14: Geographical distribution of users at www.wikicai.com (Numeric)

3.1.7 IP TRACKING SYSTEM ANALYSIS

In January 2019, the second version of Wikicai was launched changing the business model to a subscription-based platform. As mentioned before, this update and change of scope was based on the lack of revenues of the website, which needed maintenance and investment to keep running. In this sense, Wikicai tried to make it easier for students to access the platform and all its content by creating personalized subscriptions, which were adapting in price, access priority and duration as the year went on.

There are subscriptions oriented for students that have subjects of different years, students than only require access to certain subjects in June, when remedial exams occur.

After developing the new visuals, deciding the different subscription plans and content and launching the marketing campaign, Francisco realized that there could be problems with clients that would purchase one subscription and then they would share the profile among peers to access the platform. Therefore, one student would purchase one subscription and tens of students would use the same login credentials to access the platform from different devices.

To solve this problem and make each subscription usable only for one student or device at the same time, Francisco personally developed a tool, called the IP Tracking System, which made sure that each subscription was only used by one student at the same time and in the same place.

This system would first create a database of all the users in the platform, saving their default credentials and IP, which could be updated if needed. Then, the system constantly analyzes the traffic on the website, looking for the credentials and IP of each user and comparing those with the database. In the case that the stored credentials would not match with the current searched credentials and IP, the system send a warning message in the form of a banner, that notifies the student that using the platform with shared credentials is prohibited, and that if that incorrect use is sustained during the next minutes, the subscription will be cancelled indefinitely.

In order to implement this tool, the website needs API capabilities to be able to code and work with credentials, databases and IP recognition. These capabilities were possible thanks to Wix platform, where the website was developed and where this IP Tracking system was built.

The actual code used to implement the IP Tracking System is shared in the appendix, however, in **Figure 15** the flow and methodology used to develop the tool is graphically explained, for better understanding of actions and coding methodology. Additionally, an example of the database can be found in the Appendix II.

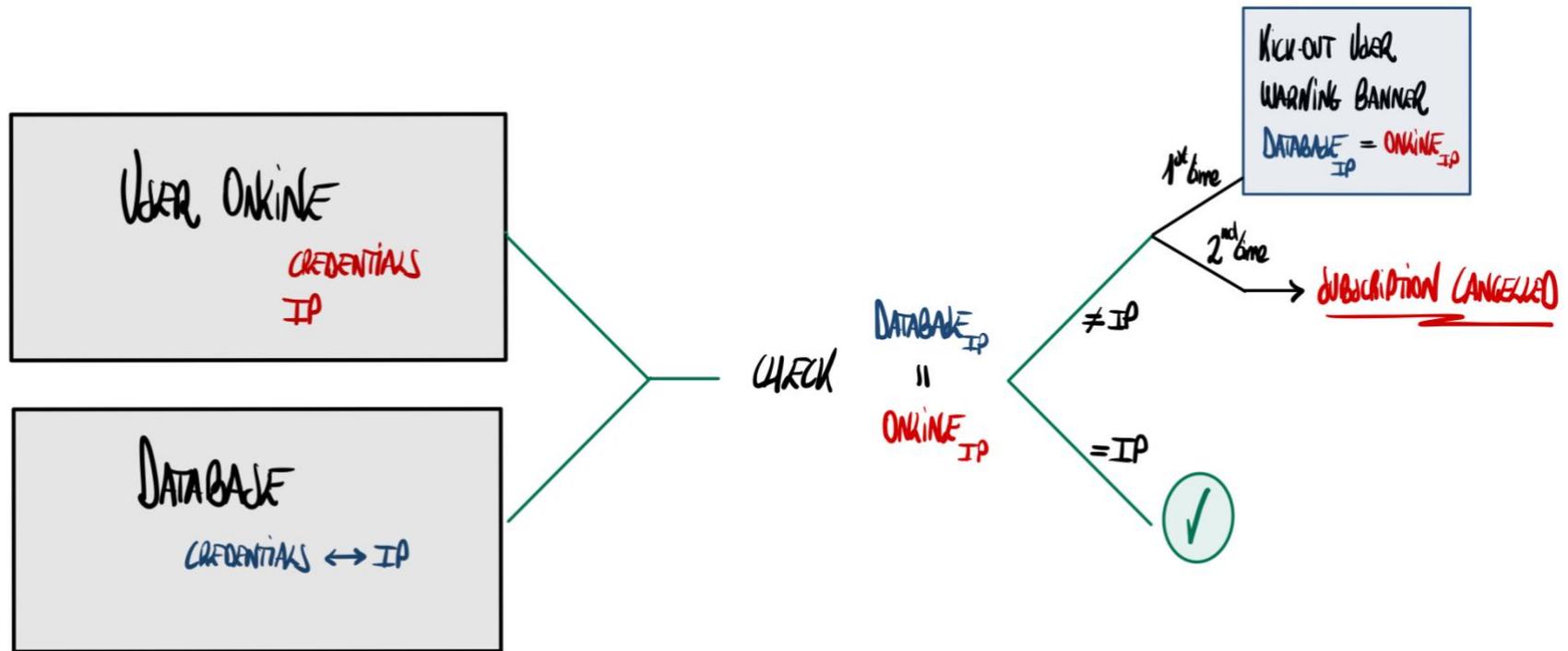


Figure 15: IP Tracking System Workstreams Diagram

3.2 *DIGITAL NOTE-SHARING MARKET RESEARCH*

Following on, this section studies the state of the digital note-sharing market from different perspectives. First, looking at the global situation, led by the American institutions and companies, which are more advanced and mature in this sector. Next, the section will focus its research on different companies and use cases in the European and Spanish market.

Francisco's journey as a student at University of Maryland was a key differentiator and enabler of his willingness and passion for entrepreneurship. His peers in class, societies in the university and workshops around the campuses helped him to acknowledge and discover his inner abilities to develop a business in the future.

This mental predisposition for entrepreneurship is the key success factor of American entrepreneurs and business leaders and is the common variable that all the digital note sharing business that will be analyzed share among each other.

As a starting point, it's important to know, at least at high level, the educational configuration of American universities. Given the high density of population in the country, both public and private universities in United States have a lot more students than Spanish universities. Furthermore, universities in USA tend to bet for an education lifestyle where students live in the university campus and share experiences with their colleges. Differently, in Europe or Spain it is not usual to live in the University campus or even near to it, people tend to do their lives disconnected from university as much as possible. Although it may seem irrelevant for the study of the business, the way students live their education and feel engaged in the university ecosystem changes the way they study and face their goals, and consequently, it shapes the type of business that can be built around the educational lifestyle.

Following on, a detailed study of the most important and impactful start-ups or companies oriented to the digital note-sharing market will be shared.

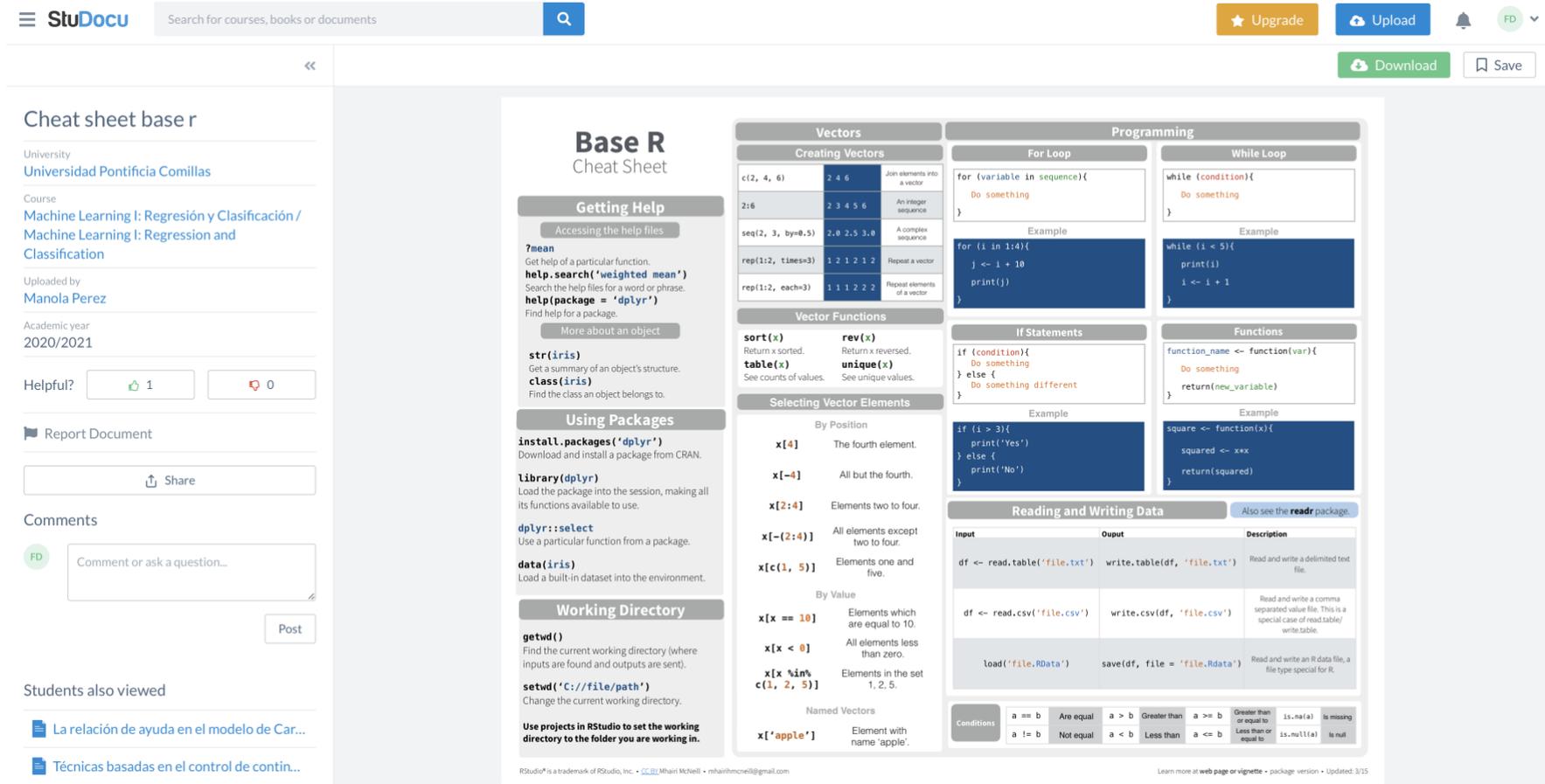
3.2.1 STUODOCU ANALYSIS

StuDocu is a Dutch start-up founded by four students at Delft University in 2014. The business was first launched in the Dutch version, called StudeerSnel.nl and later was expanded to other countries in Europe.

The business model of StuDocu is to offer exams, notes and books for specific subjects and careers in each university. The platform is monetized via premium subscriptions, which give access to users to selected materials. After 8 years of business expansion and technology development, StuDocu has more than 12.5 million users worldwide, operating in more than 18 thousand universities mainly in countries such as Spain, Netherland, Italy, UK, America, ... The platform has more than 4 million documents uploaded with more than 80 thousand books and more than 500 thousand solved questions in total.

StuDocu platform excels by its great website development and design. Differently to the majority of the competitors, the website is easy to use and gives the user great flexibility to adapt the platform to its needs. The great design can be checked in **Figure 16** below, where one of the few notes available for Comillas Univeristy – ICAI is shown. The platform has adapted very well to let students rate, comment and share the document based on how useful it results for each of them.

Furthermore, document quality and resolution are in average very good, which notes that content managers give certain importance to the quality of documents, one of the main value propositions of Wikicai



StuDocu Search for courses, books or documents

Upgrade Upload Download Save

Cheat sheet base r

University: Universidad Pontificia Comillas
Course: Machine Learning I: Regresión y Clasificación / Machine Learning I: Regression and Classification
Uploaded by: Manola Perez
Academic year: 2020/2021

Helpful?

Report Document

Share

Comments

Comment or ask a question...

Students also viewed

- La relación de ayuda en el modelo de Car...
- Técnicas basadas en el control de contin...

Base R Cheat Sheet

Getting Help

Accessing the help files

?mean
Get help of a particular function.
help.search('weighted mean')
Search the help files for a word or phrase.
help(package = 'dplyr')
Find help for a package.

More about an object

str(iris)
Get a summary of an object's structure.
class(iris)
Find the class an object belongs to.

Using Packages

install.packages('dplyr')
Download and install a package from CRAN.

library(dplyr)
Load the package into the session, making all its functions available to use.

dplyr::select
Use a particular function from a package.

data(iris)
Load a built-in dataset into the environment.

Working Directory

getwd()
Find the current working directory (where inputs are found and outputs are sent).

setwd('C://file/path')
Change the current working directory.

Use projects in RStudio to set the working directory to the folder you are working in.

Vectors

Creating Vectors

<code>c(2, 4, 6)</code>	2 4 6	Join elements into a vector
<code>2:6</code>	2 3 4 5 6	An integer sequence
<code>seq(2, 3, by=0.5)</code>	2.0 2.5 3.0	A complex sequence
<code>rep(1:2, times=3)</code>	1 2 1 2 1 2	Repeat a vector
<code>rep(1:2, each=3)</code>	1 1 1 2 2 2	Repeat elements of a vector

Vector Functions

sort(x) Return x sorted.	rev(x) Return x reversed.
table(x) See counts of values.	unique(x) See unique values.

Selecting Vector Elements

By Position

- `x[4]` The fourth element.
- `x[-4]` All but the fourth.
- `x[2:4]` Elements two to four.
- `x[-(2:4)]` All elements except two to four.
- `x[c(1, 5)]` Elements one and five.

By Value

- `x[x == 10]` Elements which are equal to 10.
- `x[x < 0]` All elements less than zero.
- `x[x %in% c(1, 2, 5)]` Elements in the set 1, 2, 5.

Named Vectors

- `x['apple']` Element with name 'apple'.

Programming

For Loop

```
for (variable in sequence){
  Do something
}
```

Example

```
for (i in 1:4){
  j <- 1 + 10
  print(j)
}
```

While Loop

```
while (condition){
  Do something
}
```

Example

```
while (i < 5){
  print(i)
  i <- i + 1
}
```

If Statements

```
if (condition){
  Do something
} else {
  Do something different
}
```

Example

```
if (i > 3){
  print('Yes')
} else {
  print('No')
}
```

Functions

```
function_name <- function(var){
  Do something
  return(new_variable)
}
```

Example

```
square <- function(x){
  squared <- x*x
  return(squared)
}
```

Reading and Writing Data

Also see the **readr** package.

Input	Output	Description
<code>df <- read.table('file.txt')</code>	<code>write.table(df, 'file.txt')</code>	Read and write a delimited text file.
<code>df <- read.csv('file.csv')</code>	<code>write.csv(df, 'file.csv')</code>	Read and write a comma separated value file. This is a special case of read.table/write.table.
<code>load('file.Rdata')</code>	<code>save(df, file = 'file.Rdata')</code>	Read and write an R data file, a file type special for R.

Conditions

<code>a == b</code>	Are equal	<code>a > b</code>	Greater than	<code>a >= b</code>	Greater than or equal to	<code>is.na(a)</code>	Is missing
<code>a != b</code>	Not equal	<code>a < b</code>	Less than	<code>a <= b</code>	Less than or equal to	<code>is.null(a)</code>	Is null

Learn more at [web page](#) or [vignette](#) • package version • Updated: 3/15

Figure 16: StuDocu website design and content visualization example

Additionally, Studocu has developed smartphone and tablet applications to let students check documents and notes wherever they want. Furthermore, one of their value propositions is “Study anytime, anywhere, on any device” and with the addition of this applications that proposition couldn’t be more accurate.

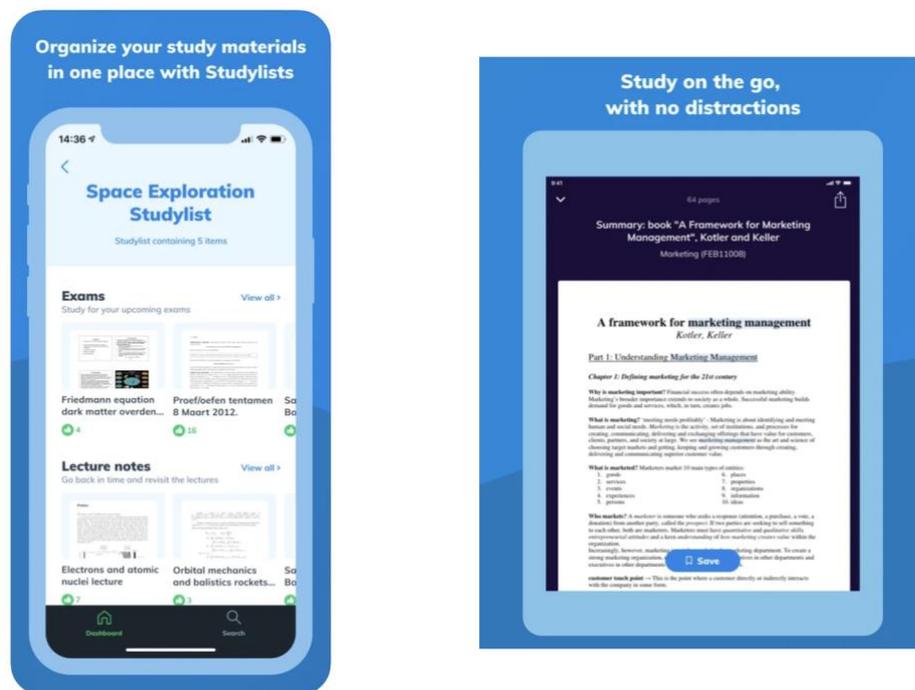


Figure 17: StuDocu smartphone application design and content visualization example

Regarding some recent news of StuDocu, it has had several regulatory issues with the content published in their website. Similarly, to the rest of the digital note-sharing companies, their platforms have document which copyright and authors are universities or individuals that have not approved to share the document online. For example, StuDocu has a lot of official university exams published in their website. Unfortunately, one teacher in the University of Delft used a previous exam, which was uploaded to the website, to evaluate his subject for the next year. As the whole class was using StuDocu to prepare for the exam everyone knew the answers for those questions and the whole class obtained marks of 10/10. Although this was a specific example, copyright issues are one of the main problems to solve

in the industry. In this sense, it is known that StuDocu has hundreds of requests to delete uploaded content that doesn't have owner approval.

Regarding fundings and investor relations, StuDocu was first backed up by an angel investor in 2014, who invested 130k€ in the company. Later on, StuDocu received 1.35M€ from Peak Capital and Point Nine Capital and it has recently raised over 47M€ in 2021 to accelerate global roll-out. With this valuation StuDocu establishes as the greatest document sharing platform in Europe and one of the best positioned worldwide.

Last, StuDocu financial results in recent years show that StuDocu obtained revenues of 1.3M€ in 2019, with total assets reaching 0.5M€. Surprising enough, revenues are expected to grow substantially during 2021 and following years given the expansion StuDocu is trying to perform globally. Additionally, these financial results do not show the strong investment that StuDocu has achieved recently, which has given the company a lot of financial power for their development.

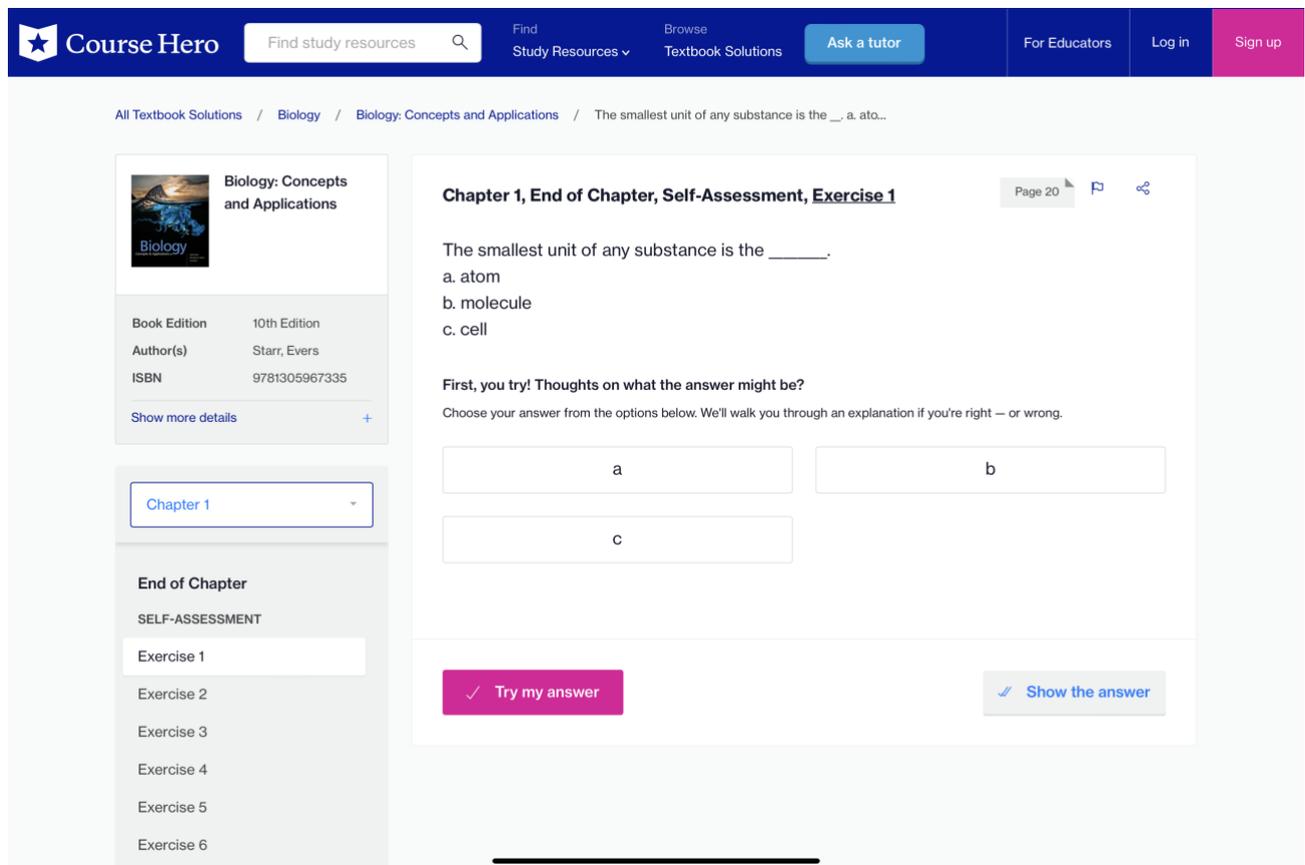
3.2.2 COURSE HERO ANALYSIS

CourseHero is an American company founded in 2006 by Andrew Grauer, while he was student at Cornell University. CourseHero launched as a platform to share lectures, class notes, exams and assignments between students, trying to increase value of the information generated in class.

After only eight years of life, CourseHero raised \$15 million in Series A funding in 2014, and another \$10 million in Series B funding in 2020. Additionally to funding, CourseHero acquired in the past year two companies, Symbolab, a mathematics problem solver and LitCharts, a literature guide resource.

Regarding the business model of the company, CourseHero offers its services for \$9.95 in monthly payments, to get free access to over 60 million study resources. However, there is another way to access materials, and it's by uploading your study materials and gaining credits for each upload. With those credits the user can then download other materials and populate to website with more valuable content.

Last, an example of the visualization and design of the website is shown in **Figure 18**, where the user can virtually solve problems and questions of each book. Although this feature is only available for certain books, the development and design of the tool is very good, using a very good learning method where students first try to solve problems and then compare their answer or solution with the correct answer. In other platforms in turn the result or answer is shown straight-away, opening doors for students to just copy and paste the results or methodology to solve the problem.



The screenshot displays the CourseHero website interface. At the top, there is a navigation bar with the CourseHero logo, a search bar, and links for 'Find Study Resources', 'Browse Textbook Solutions', 'Ask a tutor', 'For Educators', 'Log in', and 'Sign up'. Below the navigation bar, the breadcrumb trail reads: 'All Textbook Solutions / Biology / Biology: Concepts and Applications / The smallest unit of any substance is the __. a. ato...'. The main content area is divided into three sections. On the left, there is a book cover for 'Biology: Concepts and Applications' with details: 'Book Edition: 10th Edition', 'Author(s): Starr, Evers', and 'ISBN: 9781305967335'. Below this is a 'Chapter 1' dropdown menu. The middle section is titled 'Chapter 1, End of Chapter, Self-Assessment, Exercise 1' and shows the question: 'The smallest unit of any substance is the ____.' with options 'a. atom', 'b. molecule', and 'c. cell'. Below the question is a prompt: 'First, you try! Thoughts on what the answer might be?' and instructions: 'Choose your answer from the options below. We'll walk you through an explanation if you're right – or wrong.' There are three input boxes for options 'a', 'b', and 'c'. At the bottom of the main content area, there are two buttons: 'Try my answer' and 'Show the answer'.

Figure 18: CourseHero website design and content visualization example

3.2.3 CHEGG ANALYSIS

Chegg is an American company founded in 2000 by Iowa State University students Josh Carlson, Mike Seager, and Mark Fiddleke. The business was focused in helping students without experience to land a job offer after graduating by listing opened offers in the market. The idea was based on the own experience of the founders, who were struggling to find a job at that time. A few years later, Chegg offered scholarship searches, internship matching and college application advice.

In 2007, Chegg developed and started a new business model for the company, shifting its services to concentrate on renting textbooks to students and expanded to the national market. Later on, Chegg also started offering goods and students services.

In November 2013, Chegg began trading shares publicly on the New York Stock Exchange and accounted for a market capitalization of \$1.1 billion. Nowadays, Chegg is trading at \$11.5 billion, providing the great growth and potential of the company.

Throughout the last ten years, Chegg has conducted several acquisitions, including businesses like CourseRank, Cramster and Notehall in 2010. Out of these, Notehall is especially interesting for this research, as it was a business focused on class notes.

Notehall was acquired for \$3.7M in equity and undisclosed cash and integrated into the Chegg Homework Help site. It first appeared in 2009 in the famous ABC reality TV show “Shark Tank”, before being acquired by Chegg. The business model of Notehall was merely to buy and sell class notes, outlines and study guides from students. It’s activities raised a lot of criticism from universities, as well as it happens with other platforms like CourseHero, who are very unliked by university teachers.

Additionally, Chegg also acquired in the recent years technology-based companies, such as software, artificial intelligence and 3D companies, including Easy Solutions, Cogeo GmbH, Zinch, 3D3R, WriteLab or InstaEDU.

Regarding the service offerings of the platform, the business has evolved and developed a lot in the recent years and now offers different services such as homework help, exam preparation, textbook solutions, plagiarism and grammar checkers, book renting and selling and career developing help with bootcamps or internship advice. All these services are offered together for a monthly fee of \$14.95

Last, regarding visuals and website development, given the high investment and traffic of the website, its design and user-experience is very curated and shows high maturity of the business. Integrating all services in one website is not easy at all, and Chegg does it perfectly. An example of the homework solution section is showed below in Figure XX, where it can be seen that everything is very well integrated, and that the user can feel himself as a participant of the web, posting questions and changing easily between sections of the website.

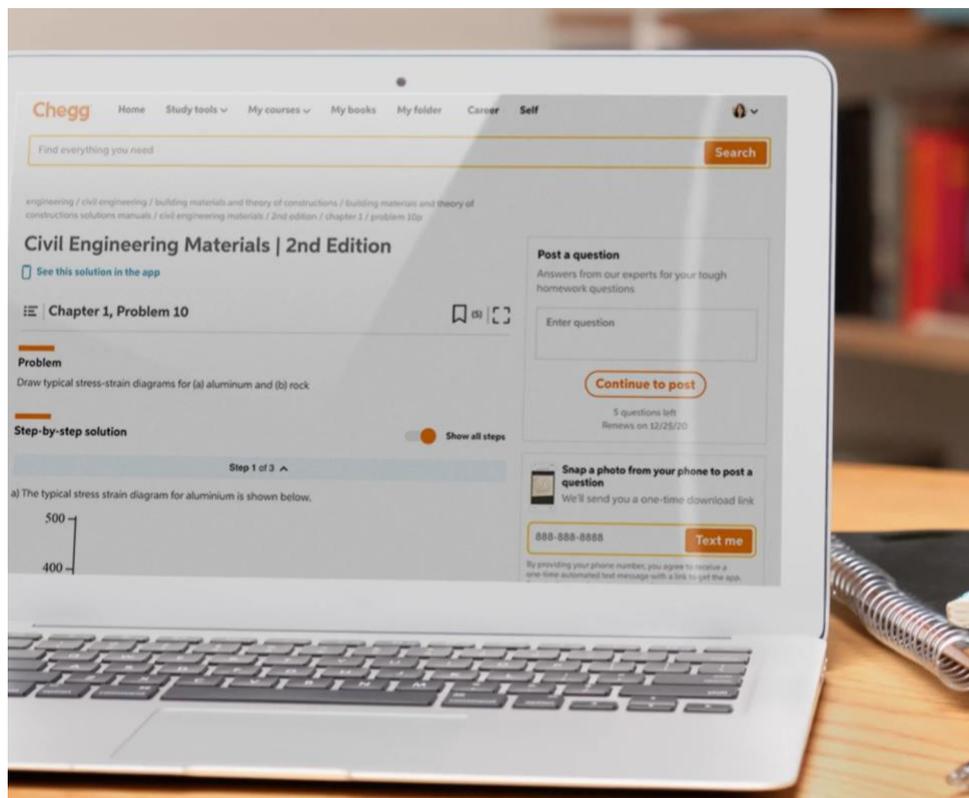


Figure 19: Chegg’s website design and content visualization example

3.2.4 NEXUS NOTES ANALYSIS

Nexus Notes is an Australian start-up founded by former AFL player Hugh Minson, 26, and Macquarie Bank worker Richard Hordern-Gibbings, 25, in Adelaide in 2011.

The business model of Nexus Notes is to offer notes submitted from students at more than sixteen universities in Australia and three in New Zealand. Therefore, clients can benefit in two ways: as readers or as creators of content. On the one hand, Nexus Notes is useful for those students who miss classes, want to revise, or want to focus on lecturers instead of writing everything down. On the other hand, students can use the service to make money from their lectures.

Nexus notes works by subscription. Users (readers) can subscribe to an annual plan at \$5.99/month or a monthly plan at \$29.99/month, being able to access up to 30 documents per month on either plan. And authors (students or professionals who upload their materials) get a percentage of the monthly revenue that Nexus Notes collects from its subscribers each month in accordance with the subscribers that have added their notes to their library that month.

Nexus Notes platform is extremely easy and intuitive. The clean, simple and organized design, which can be checked in **Figure 20**, guides users in order to choose the clear options that the platform offers; mainly *search Notes* or *sell Notes*, as well as *my Notes*.

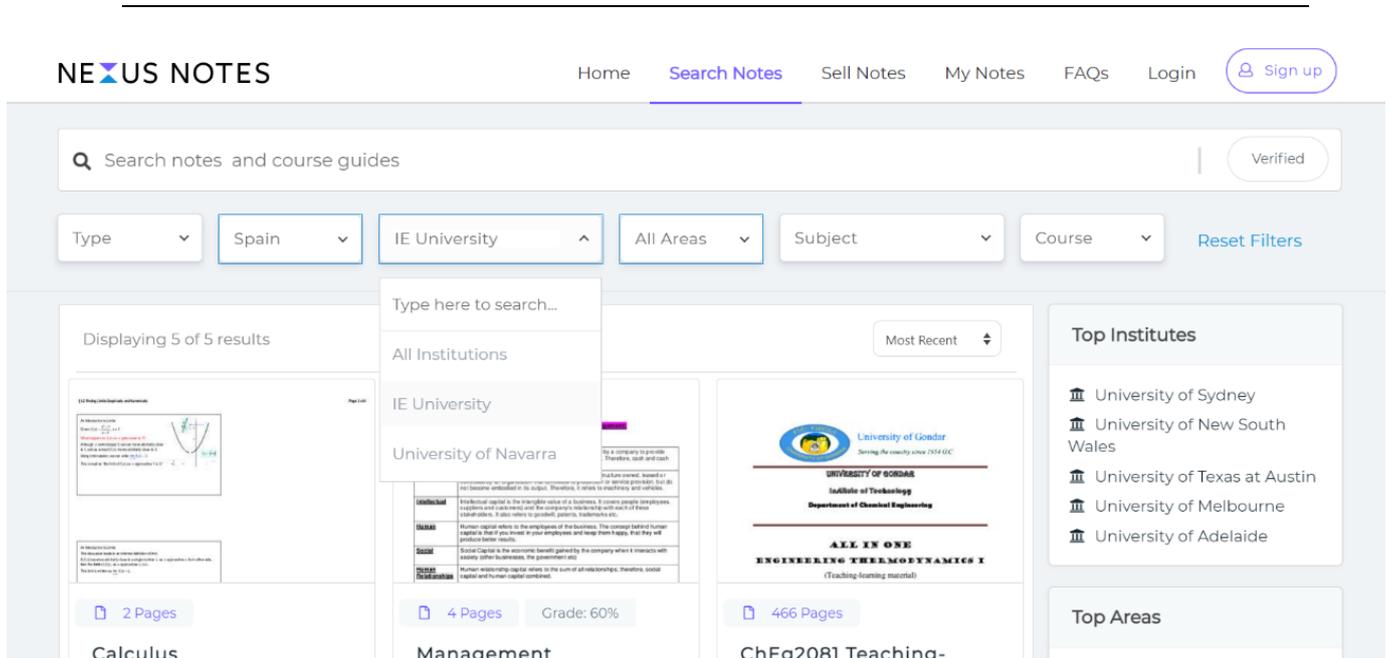


Figure 20: Nexus Notes website design and content visualization example

3.2.5 DOCSITY ANALYSIS

DocSity is an Italian start-up launched in 2011 by an Italian student of Politecnico de Turin. Based on his own experience, he needed a platform where all the needed material was saved and accessed. At first, it was launched only in Italian, but later on it was translated and launched in several languages such as English, Spanish, Portuguese or French.

In 2016, DocSity acquired Patatasbravas.com, a Spanish website launched in 2002 which was known as the pioneer of edtech note-sharing start-ups. Moreover, it was very famous thanks to one specific feature in which it showed rankings of teachers in each university.

DocSity business model is based in paid subscriptions and paid downloads. Students can earn money based on the number of downloads their documents have, and they can choose the price of their documents. Furthermore, there is an additional feature thanks to which users can download and get access to the platform via credits. Credits are obtained by performing certain actions in the platform, like uploading documents. This solution is very

interesting as it adds value to the platform, by having more documents uploaded, and at the same time it enables users to use the platform for free.

Regarding visuals and platform development, **Figure 21** shows one example of the visualization of documents. Although visualization is correct, there is a big difference of user experience between DocSity and StuDocu, mainly based on document searching and filters. There are lots of documents in DocSity that are assigned to the wrong universities. Moreover, it's not straightforward to find documents related to a specific degree in each university as it can be done in Wikicai, where every document is perfectly located in its correspondent subject and degree.



Figure 21: DocSity website design and content visualization example

Last, DocSity financials show great growth and momentum the company is experiencing. As it can be seen in **Figure 22**, net sales have been growing constantly since DocSity was launched in 2012, jumping to a total net sales in 2019 of 2.4M€. EBITDA and

net income margins are substantially higher than expected, with rates around 30% and 10% respectively. Considering the low maturity of the business and its focus on growth, being able to be profitable at the same time is one key leverage to exploit and take advantage with respect to peers and competitors.

€	2012	2013	2014	2015	2016	2017	2018	2019
Net Sales	23,159	85,673	210,131	276,473	631,198	1,170,724	1,835,266	2,406,964
EBITDA	4,888	64,182	101,778	169,388	266,705	530,711	654,223	599,575
EBITDA (%)	21%	75%	48%	61%	42%	45%	36%	25%
Net Income	1,383	- 451	3,064	- 5,250	4,211	111,567	249,300	167,708
Net Income (%)	6%	-1%	1%	-2%	1%	10%	14%	7%

Source: Orbis

Figure 22: DocSity financial performance analysis

3.2.6 WUOLAH ANALYSIS

Wuolah is a Spanish start-up founded by four Spanish students at University of Sevilla. They, similarly, to Wikicai, had the idea of making life easier for students, both for those that make notes and those that find it difficult to keep the pace of the subjects. Wuolah value proposition is quite different with respect to other ideas explored as its main source of revenue is advertising, which increases directly with traffic. Moreover, part of the revenues received from advertising end up in the wallet of the student or client who uploaded the document. Therefore, there is an incentive for subscribers to upload lots of high-quality notes, as they will increase the number of downloads achieved and therefore, they will be paid proportionally.

Since Wuolah started nearly ten years ago, the business has grown massively, and currently has more than one million users, three million documents and four million downloads. Recently Wuolah has also entered in different market segments, trying to reach more potential in schools and do not rely on all the business in universities. In this sense, Wuolah is now present in more than eight thousand schools around Spain, which bring powerful marketing and advertisement targets, such as Disney or Coca-Cola, which are

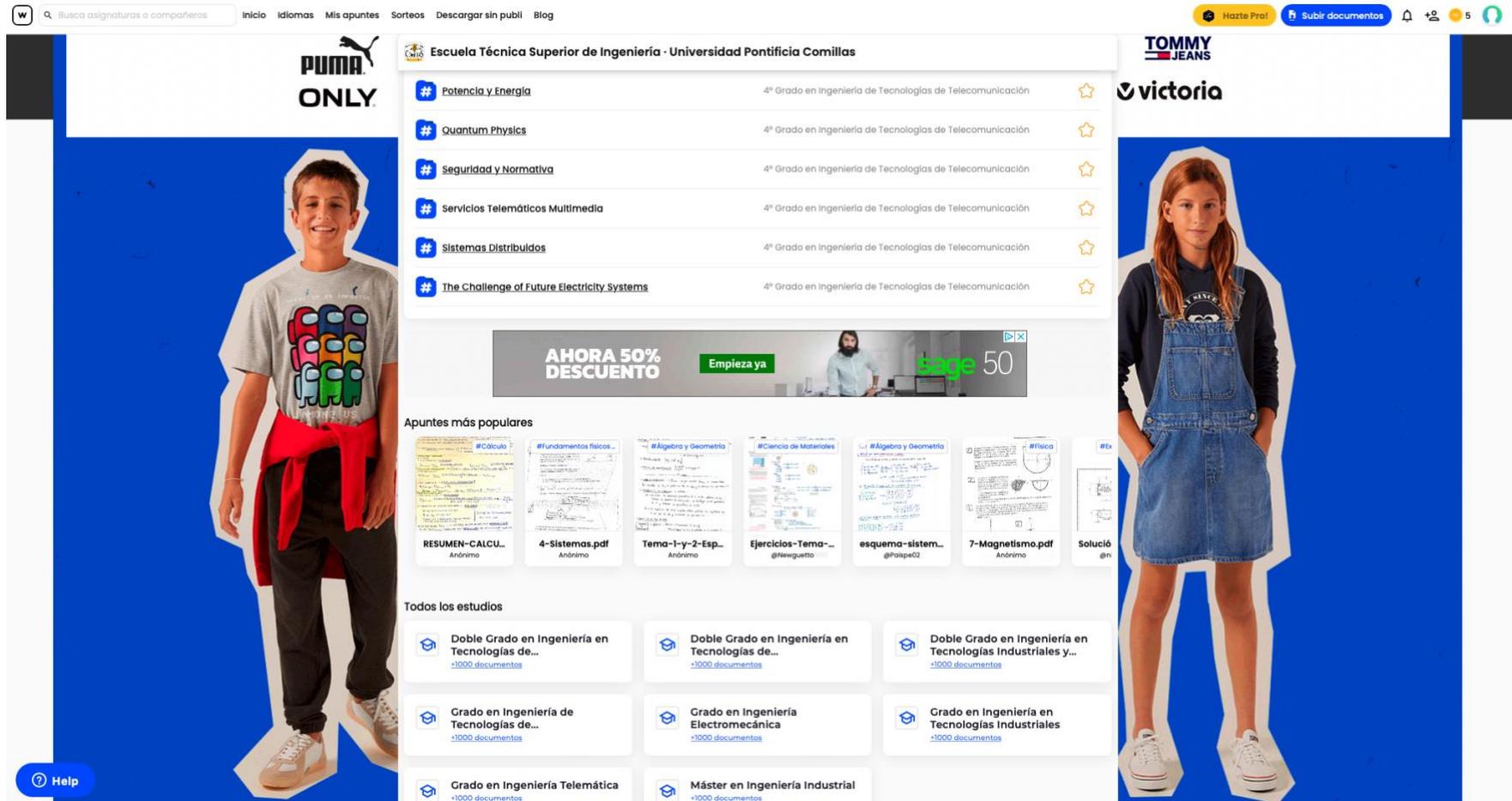
trying to reach children. Regarding recognitions, the start-up has received numerous awards as one of the most promising start-ups in Spain.

Taking a deeper look at the platform and the notes, there are two main points to highlight in this respect. First, design and integration of advertisement in the documents is superb. Given the business model on which Wuolah is sustained, having high quality advertisement and making their ad space offering attractive for large corporations like Disney is very important. At the end, everything relies on the interest of some corporations to be announced in the platform. If the traffic, documents or platform is not interesting for them, then Wuolah's business is over. In **Figure 23** an example of a document and advertisement integration is shown.



Figure 23: Wuolah example of advertisement integration

In the other hand, the platform visuals and the user experience are very poor, the flow of the web is very laggy, there are too many advertisements around the website that make the experience very unpleasant and difficult to handle. It invites the user to download and exit the website as soon as possible, and in turn this lack of good experience reduces the conversion rate of the ads that are built-in to the website. Overall, the strategy of maximizing revenues by maximizing the number of ads place on the website could be inversely proportional, and Wuolah should reconsider this strategy and prioritize the customer experience, that it's at the end the main pillar of a digital note-sharing platform.



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Figure 24: Wuolah website and content visualization example

3.2.7 OVERALL DIGITAL NOTE-SHARING INDUSTRY AND MARKET ANALYSIS

In this section, analysis of Five Forces by Michael Porter will be applied to the digital note-sharing market, especially in the Spanish market and always having Wikicai in the back of the analysis. Results are shown in **Figure 25**, where each of the Forces (Threats of new entry, threads of substitutes, supplier power and buyer power) is analyzed and where “+” represent positive impacts and “-“ negative impacts for Wikicai in each of the Five Forces.

Starting from the top, threats of new entry represent any possible threat or problem that could either benefit or drawback the business by the entrance of new companies to the market. In this case, most of the points are positive, as the threat of new entry is low. It is low because it’s difficult to enter the market, based on the high-quality content required, the time and cost needed to build a platform and gain sufficient traffic and contents or due to the customer relationships needed to build brand recognition. In the other side, there is a cost advantage to enter the market, as the industry is based on fixed costs and large companies could easily invest in this market.

Secondly, threats of substitution represent any product or similar industry that could affect Wikicai or its competitors, gaining their customers or lowering the product offering value in the market. In this matter, there is near to none or low threats because this industry is the product that acts as a substitute for the traditional education.

Third, supplier power represents the position of importance of suppliers in the industry. In this case, suppliers are all the students that make notes during their experience at the university or school. Given who represents the supplier, positive points are that there are a lot of students that could act as suppliers, and that each of them has low power by himself. These two facts lower supplier power and benefits competitive rivalry in the industry. However, there are two negative facts that increase the supplier power a lot, the first being the time and cost needed to search and change from suppliers, given the difficulty to find high-quality notes for each subject. The second point is the difficulty to manage many suppliers at the same time.

Last, buyer power is identified as how clients can shape the future of the industry with their purchasing decisions and opinions. In this matter, the industry is segmented into two different buyers, students and companies that buy advertisement packages. The first type of buyer has lower power, given the large number of students and the ability to substitute them in the market. However, companies have quite more power in the market, as they create offerings and shape the market value for the ads. Additionally, as advertisement are very personalized and focused to students, changing types of companies to advertise is difficult.

Overall, the industry is in a good position overall, with very high growth in the future and with players that are bringing the product forward. Market recognition is key to launch new products in the industry and having other companies that are already sharing and shaping a new way to study can be leveraged to enter the market faster. The key points to master before launching, as analyzed in this study, are the suppliers of the contents and notes and the companies that would be willing to advertise themselves in the platform.

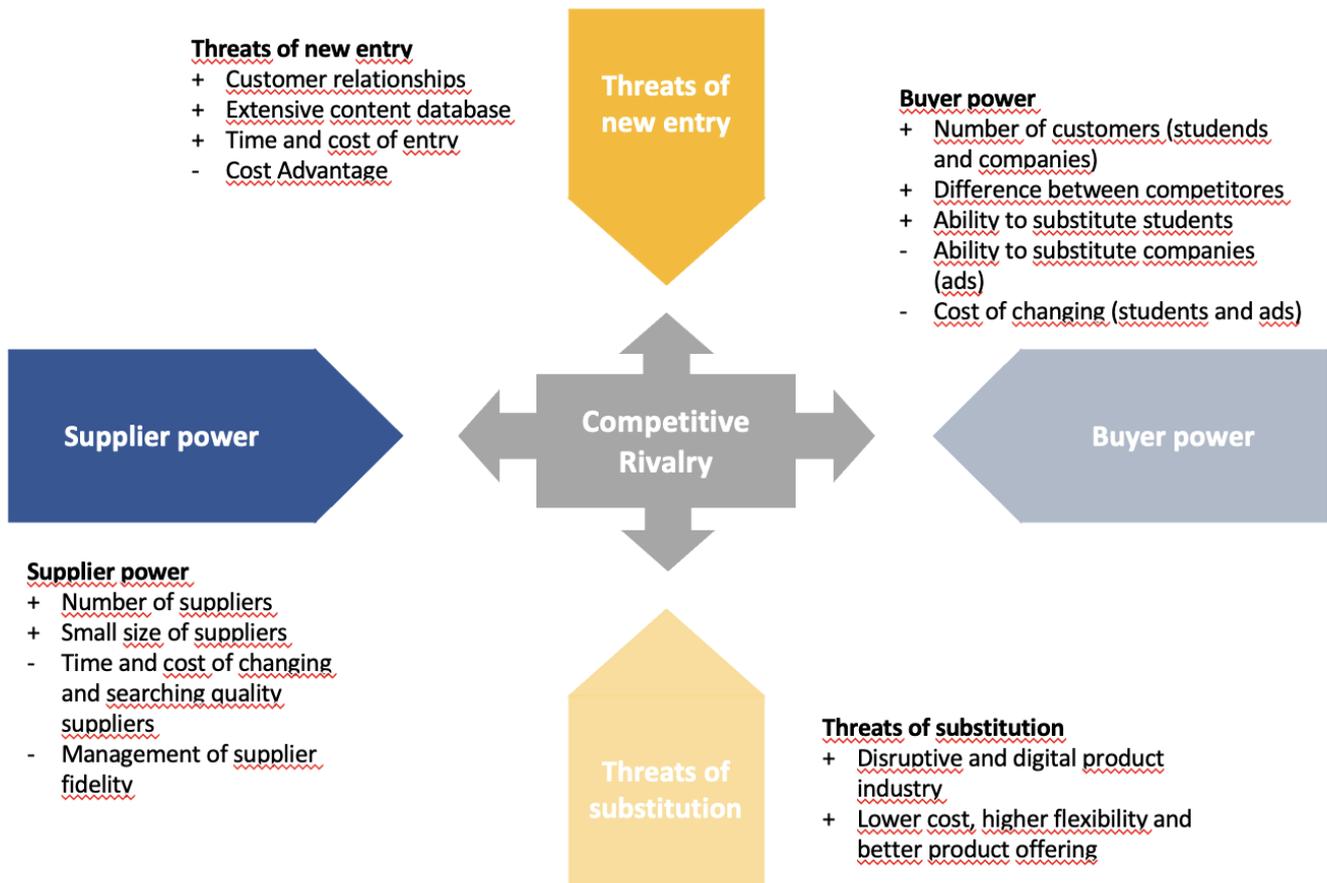


Figure 25: Five Forces Analysis for market competitiveness

3.3 WIKICAI STRATEGIC PLAN DEFINITION

This section will study and present the new business model development for Wikicai. Given the research and analysis performed in the previous sections, all the gained knowledge is utilized to adequate Wikicai's future to what the market needs. At the same time, the main goal of Wikicai is to have a scalable business, where both buyers and suppliers are integrated in the value chain of the company.

Apart from building and developing the new business model, this section also integrates and studies the investment opportunities and requirements to launch the news business and enter the new targeted markets. In this matter, as it is difficult to predict the future of the market and the business, several scenarios will be built, trying to address a range of possible outcomes for the project.

3.3.1 WHY DOES WIKICAI NEED A CHANGE?

Wikicai needs to change mostly to be able to scale and grow at a faster pace in the market. Currently Wikicai is only focused in Comillas University, and the scope is to grow the business to other universities in Madrid as a first stage, and to other Spanish universities in the second stage. In this direction, then, changing the business model of the company is key to drive forward growth and brand recognition.

Specifically, there are three main changes and objectives that the new business model of Wikicai should achieve:

- Grow **customer portfolio** and push forward on **website traffic**, open door to gain strong advertisement.
- **Expand recognition of the brand** and website outside Comillas University.
- **Grow database of notes**, always keeping the high-quality that defines the business but trying to expand to new degrees, cities and universities.

3.3.2 HOW DOES WIKICAI WORK?

The new business model of Wikicai changes the way the company approaches supply and demand, focused on creating valuable traffic on the website so that ad publishers are interested in appearing in the platform. Overall, the business model has two main pillars: a great product and great platform offerings for advertisers. These pillars are satisfied via great notes created by students, and a great digital platform where companies can pay for personalized ads for customers.

In terms of product offering for advertisers, Wikicai’s main advantage is its knowledge about customers and students. This knowledge of the students, like the time of the day when they study, from where, at what times they rest, all these variables are very valuable for advertisers and if are correctly aggregated and offered can build-up a great product offering for companies. In the other side, a great product will be only achieved if there are good notes in the platform. In the new business model, good notes are achieved via University Ambassadors, who have the role of looking for notes for each subject in each degree and university on which Wikicai is present. They will be responsible to manage relationship and updates with the notes owners, and will be paid, alongside with them, depending on the number of downloads that their files get.

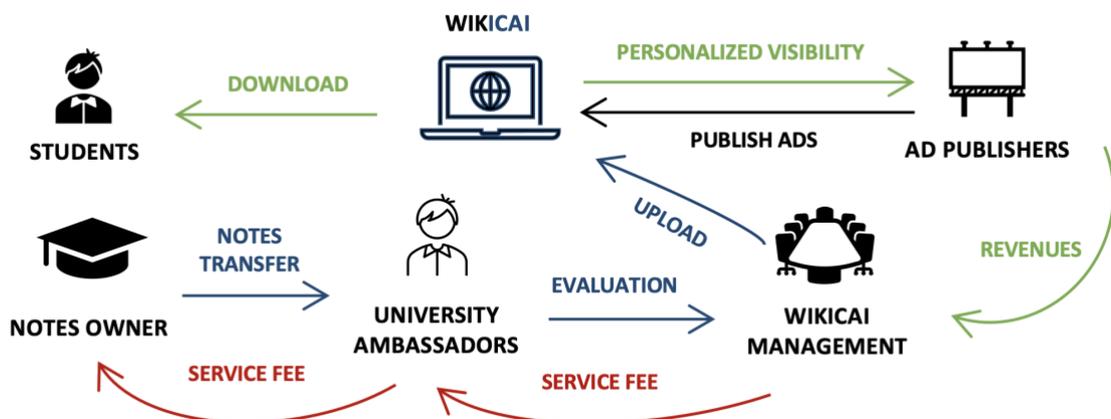


Figure 26: Wikicai new Business Model Workflow

To further understand how the business will work, the list below explains the role of each of the stakeholders and players in the value chain of Wikicai.

- Students: As the users of the platform, students are key to build traffic on the website and to make it as valuable as possible for companies to advertise themselves on it.
- Notes owner: Notes owners are students specifically selected to upload and transfer their notes to build the product offering of the website. These owners will be selected by the ambassadors, and they will be paid a variable fee depending on the number of downloads that each of their files get.
- University Ambassadors: Either students, alumni or externals, ambassadors are key in this business model, as they are responsible on finding the best notes for each subject or degree in each university to which Wikicai expands.
- Ad publishers: Any company interested to be advertised in the website. Additionally, publishers should also be companies that are interesting for Wikicai's customers and oriented to the segment of users the platform has.

The updates Business Model Canvas is updated in **Figure 27** below, showing the new stakeholders and value chain of the company, with features like the addition of companies as advertisers, free access to content and the role of University Ambassadors, responsible for searching for new high-quality notes in university outside Comillas.

Looking at financials, both cost and revenues will grow with the new business model, and the growth of both will depend on the traffic of the website. First, costs will increase with the number of downloads, in a way that if there are low downloads, there will be lower costs and lower risk for Wikicai. Fees paid per download will be established in a later stage, once there are agreements for advertisements, although the goal is that payments for note owner and university ambassadors are lower than 25% of total revenues from advertisements. In the other side, revenues will also increase once there is more traffic on the website, increasing the value per click in the web and therefore attracting more companies to the platform.

Last, it's important to mention the new relationships between suppliers and buyers, as in the past there was no supplier, and the buyers were students. Now, everything changes massively, having some students as suppliers and the companies being the buyers, instead of the students. This could imply that the product will be very much centric and made for companies to publish ads than to students to enjoy studying in the platform, but Wikicai will always look for the best user-experience for students. If students enjoy and use the platform, there will be more traffic on it and in turn companies will be more interested in advertisement options in the platform.

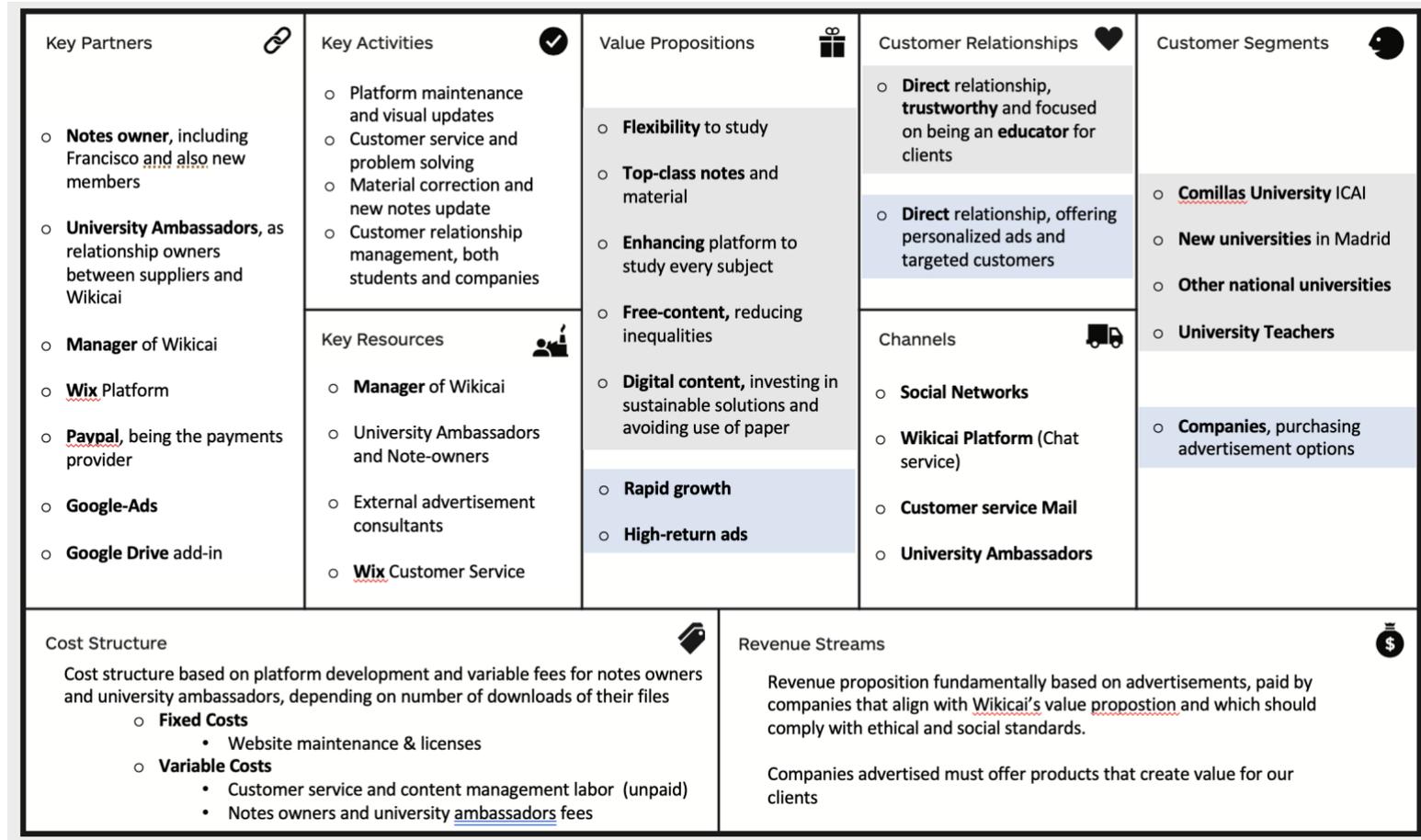


Figure 27: Wikicai New Business Model Canvas

3.3.3 VALUE PROPOSITIONS OF THE NEW BUSINESS MODEL

Developing and launching the new business model has a lot of challenges and requirements, but it will also empower and make the business grow and expand to other universities. In order to show the brand to new customers and companies and to identify Wikicai with a specific type of social and sustainable company, there are four main business value propositions and three environmental, social and sustainable aspects that will be always related to Wikicai.

Regarding business value propositions, the most valuable features of Wikicai are:

- Top quality notes: New business model allows Wikicai to choose what notes to upload and organize them accordingly to the subject and university. User satisfaction is the key driver for Wikicai
- Rapid growth: Scalability is the key feature of this business model, that lets Wikicai enter different universities and markets while keeping the essence of high quality and user-experience with which it was founded
- High-return ads: Wikicai will have a lot of information about their members, classified by age, university, degree, location... and therefore being able to offer companies personalized and very targeted advertisement options
- Free content: All features above are sustained by traffic, and traffic will come thanks to making the platform free to access for everyone, at any time, from anywhere

In the other side, regarding environmental, social and sustainable value propositions, the most valuable features of Wikicai are:

- Quality education: Wikicai's main goal is to be part of the educational foundation for thousands of students around Spain. Introduction of the new business model, which will be based in expanding the impact of the company to as many students as possible will increase capabilities of students to satisfy academic requirements

and have the power to pursue their dreams without relying on their purchasing power.

- Decent work and economy growth: Education is the foundation to economic growth and employment. Ensuring great education of individuals is key to build the required knowledge for recent graduates to achieve decent work life balance and prepare them to generate and contribute as much as possible in the society.
- Reduced inequalities: Wikicai's social objectives is to let any student be capable of driving his capacities to the limits. With the new business model, economic capabilities of individuals will not be a barrier to have great notes. In the background Wikicai battles lack of education by delivering educational learnings anywhere and to anyone. Additionally, expending in printing will be avoided thanks to the digitalization of notes.

3.3.4 BUSINESS GOVERNANCE

This section scopes the business governance structure of the business, defining the most important roles within the company and its representatives.

As mentioned in previous sections, the business will be managed by Francisco Dueñas, who is the former Founder and manager of the website since its creation. In addition to him, Ramiro Antuña will join the team as Chief Technology Officer of Wikicai, leading the development and maintenance of the new website, and managing the database of notes in the platform. To help him, Wikicai will pay a monthly fee to acquire external support for the Wix Team, who will provide capabilities and hourly consultants to create the best experience for user possible. In the other side, University Ambassadors will be managed by Francisco, who will research and choose each of them personally for each university. Later, these ambassadors will be responsible for researching and managing notes in their correspondent universities. Number of ambassadors per university will depend on each case, based on the number of students, the differences between subjects and degrees and the maturity of the students. At first, there will be two ambassadors for each Comillas University campus, and three more for Polytechnic University of Madrid, although this number may

increase in the future, as this university is much bigger than normal, with more than thirty thousand students.

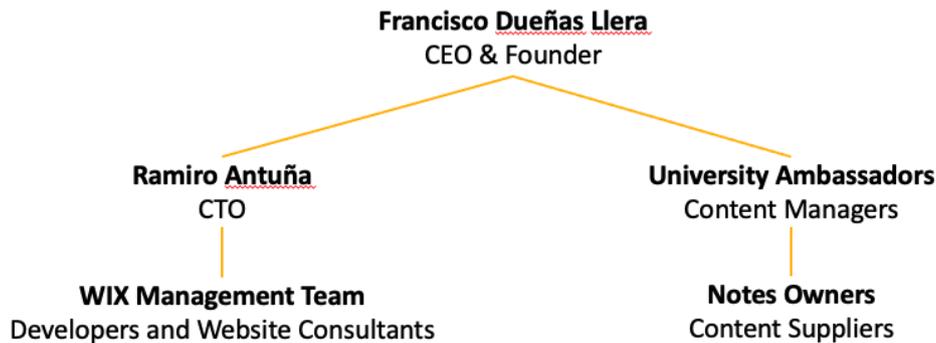


Figure 28: Wikicai new Business Governance

3.3.5 PROJECT MANAGEMENT STRATEGY

To ensure an efficient and effective market penetration after launching the new products during 2022, this section will analyze from a project management perspective the different workloads required and their timing during the months prior to launching. This section includes calendar timing of each initiative, definition of the work breakdown structure and the introduction to the market launch strategy.

Regarding market launch strategy, Wikicai will launch during 2022 at least four new initiatives to increase traffic and visitors on the website. All initiatives can be classified in three different buckets: initiatives to increase visitors from ICAI, initiatives to enter other campuses of Comillas University and initiatives to enter market of other Universities in Madrid or Spain. Although the goal is to expand the business nationally as quick as possible, 2022 will focus in just four main initiatives. First, Wikicai will change the business model at the beginning of 2022, updating ICAI notes from the new notes owners and implementing the free-access model, which will increase visitors from ICAI. It is expected that visitors from CIAI will double based on this initiative, as there are a lot of students that are not

willing to spend money to access the content. Secondly, Wikicai will join ICADE and Cantoblanco, which are the other major campuses of Comillas University. This move will complement ICAI's portfolio during 2022 and will serve as valuable knowledge to later perform the biggest and most important launch for Wikicai. Last, as mentioned, the biggest launch of the year is entering Polytechnic University of Madrid market, one of the biggest universities in Spain, with over thirty thousand students, and all of them focused on technical degrees very related to engineering.

To account for these launches and for the platform development, **Figure 29** below presents the preliminary work breakdown structure chart that the business will follow during the following months. Following on, a detailed work breakdown structure dictionary is shown to explain in detailed each task of the chart.



Figure 29: Wikicai new business model WBS - Work Breakdown Structure

As a general view, the work breakdown structure is based on five different pillars, which are Business Development, Website Development, Content Management, Advertisement Management and Testing. All these buckets represent the main tasks of action in the following months to elaborate and implement the business plan for Wikicai.

Diving deep in each of these tasks, the business development part is structured in two parts. First, the strategy definition of the company and second the establishment of operations procedures and use cases. Both tasks are performed by Francisco Dueñas, as the CEO of Wikicai, and will require both technical and non-technical skills such as the definition of strategic markets to enter or the development of dashboards via Tableau.

WBS ID	1.1
Owner	Francisco <u>Dueñas</u> – Wikicai CEO
WBS Name	Business Strategy Definition
Description	Definition of the new business model for Wikicai, establishing the market launch strategy for 2022 and building a sustainable and self-sufficeint business structure
Activities	Develop business model canvas, define and scope market launches and develop business cases
Acceptance Criteria	Completed once the business is ready to be launched, however this tasks requires recurrent revision and work, as it's the main driver of growth and success for the company
Dependencies	-
Deliverables	Business case results, market launch calendar and work structure breakdown. Overall project description and pitching materials
Assigned Resources	Wikicai management – Francisco <u>Dueñas</u>
Duration	4 months (Phase I)
Milestones	University project delivery, pitching companies and investors
Cost	No estimated cost – Francisco <u>Dueñas</u> work
Approval	Wikicai Management Team

WBS ID	1.2
Owner	Francisco <u>Dueñas</u> and Ramiro <u>Antuña</u> – Wikicai CEO & CTO
WBS Name	Business Operations Definition
Description	Definition and scoping of everyday operations for the business. Development of tracking tools such as dashboards to measure and analyze performance of the business.
Activities	Develop daily, weekly and monthly dashboard to track user experience, traffic, website performance and general sales and marketing variables
Acceptance Criteria	Completed once dashboards and daily operations structures are finished
Dependencies	-
Deliverables	Dashboard creation with databases and utilizing tools such as Tableau and SQL to extract information
Assigned Resources	Wikicai management
Duration	2-3 months (Phase II)
Milestones	Dashboard creation and testing
Cost	No estimated cost – Francisco <u>Dueñas</u> and Ramiro <u>Antuña</u> work
Approval	Wikicai Management Team

Following on, the second part involves the website development and the creation of the platform itself. This task will be majorly performed by Ramiro Antuña, who is hired as CTO for Wikicai given his background in software development. Both CEO and CTO of Wikicai will work very close to align the development of the website with the business model of Wikicai.

WBS ID	2.1
Owner	Francisco <u>Dueñas</u> and Ramiro <u>Antuña</u> – Wikicai CEO & CTO
WBS Name	Wikicai Platform Design
Description	Definition of the visuals and capabilities of the platform based on the business model for Wikicai. Platform design takes into account both user experience and advertisement strategies.
Activities	Develop platform design options and adequate the website to the business model capabilities.
Acceptance Criteria	Once different options are design, task is completed once the design of the website and platform is chosen, and the development can start.
Dependencies	-
Deliverables	Platform design materials, website visuals and advertisement integration to documents and website
Assigned Resources	Wikicai management
Duration	1 month (Phase I)
Milestones	Design testing and option selection (1 day)
Cost	No estimated cost – Francisco <u>Dueñas</u> and Ramiro <u>Antuña</u> work
Approval	Wikicai Management Team – CEO & CTO

WBS ID	2.2
Owner	Ramiro Antuña – Wikicai CTO
WBS Name	Website Development
Description	Development and coding of the platform and website of Wikicai following the selected design and including all capabilities stated in the business model definition
Activities	Development of the website, database and advertisement implementation. Inclusion of membership tools to personalize the website for each student and university
Acceptance Criteria	Successful testing of website and content viewing
Dependencies	-
Deliverables	Finished website
Assigned Resources	Ramiro Antuña + Seasonal Wix consultants
Duration	4 months (Phase I)
Milestones	Phases structured based on backend (databases, memberships, advertisement tool) and frontend (visuals, content viewer)
Cost	3.000 € (>2 daily hours) and 10% of Wikicai stocks
Approval	Wikicai Management Team – CEO & CTO

Third, one of the most important tasks to perform in the following months is to align content management requirements across the business. It is important to first established a custom procedure to sign contracts and agreements to legally publish and distribute content from external owners. At the same time, it's also important to invest time to research and find the best ambassadors for Wikicai in each university, as these ambassadors will then be responsible to select the best notes in class, which are the most valuable assets for Wikicai.

WBS ID	3.1
Owner	Francisco <u>Dueñas</u> - Wikicai CEO
WBS Name	Content Management Hiring
Description	Research and hiring of University Ambassadors (Content managers) for Wikicai
Activities	Research each university individually and choose diferent ambassadors based on their academic performance and social capabilities
Acceptance Criteria	Hiring completed for each campus and university as planned in the business model
Dependencies	-
Deliverables	Contracts and workshops to new content managers
Assigned Resources	Francisco Dueñas
Duration	1 month (Phase I and II)
Milestones	Hiring completed for different universities and campuses
Cost	No estimated cost - Francisco Dueñas work
Approval	Content managers

WBS ID	3.2
Owner	Francisco <u>Dueñas</u> - Wikicai CEO
WBS Name	Content Legal Agreements
Description	Development of contracts and legal agreements in order to be able to publish documents and papers of externals
Activities	Legal work with known lawyers to address any problem and requirement in the business as usual operations of Wikicai
Acceptance Criteria	Lawyers acceptance on agreements and contracts created
Dependencies	-
Deliverables	Agreements and contracts
Assigned Resources	External lawyers and advisors
Duration	1 week (Phase I)
Milestones	
Cost	No estimated cost – Former ICADE Student in charge
Approval	External lawyer and advisors

Fourth, defining advertisement strategy and choosing the best way to sell ad spaces to external companies is key to build up the top line of the business. In this sense, tasks 4.1 and 4.2 are focused on defining the product portfolio offering in terms of advertisement spaces for external companies and developing tools to personalize advertisements for different student segments or companies.

WBS ID	4.1
Owner	Francisco <u>Dueñas</u> - Wikicai CEO
WBS Name	Advertisement Strategy Definition
Description	Development of guidelines and strategy for Wikicai's advertisement, both internal and external. Includes advertisement of Wikicai itself and strategy to offer ad-spaces in the website to external companies
Activities	Research product offerings available to create value in advertisement, select among different advertisement strategy options
Acceptance Criteria	Proper strategy selected and outline of requirements for companies and product offerings
Dependencies	-
Deliverables	Outlined strategy of advertisement publications
Assigned Resources	Francisco Dueñas – Wikicai's CEO
Duration	1 week (Phase I)
Milestones	-
Cost	No estimated cost - Francisco Dueñas work
Approval	Wikicai Management Team – CEO

WBS ID	4.2
Owner	Francisco Dueñas – Wikicai CEO
WBS Name	Advertisement Company Pitching
Description	Research of external targets to offer advertisement spaces, development of pitch materials and product portfolio offerings
Activities	Develop pitching materials, advertisement examples and performance metrics. Elaborate example of results and select pricing offerings
Acceptance Criteria	Companies accepting and purchasing advertisement options in the platform and accepting legal conditions. Companies must comply with certain ethical and social standards
Dependencies	-
Deliverables	Signed contracts with companies
Assigned Resources	Francisco Dueñas – Wikicai’s CEO
Duration	1 month (Phase II)
Milestones	-
Cost	No estimated cost - Francisco Dueñas work
Approval	Wikicai Management Team – CEO

Last, testing activities are required to make sure that the platform and that the MVP delivered is sufficient to perform the market launch at time and form. This testing should be done comparing the desired capabilities stated in the business model with the actual working capabilities of the website. Additionally, a detailed test of personalized advertisement and content viewing should be done to ensure that the user experience of the most important stakeholders, students and companies, is the best in the market.

WBS ID	5
Owner	Francisco Dueñas and Ramiro Antuña – Wikicai CEO & CTO
WBS Name	Platform Overall Testing
Description	Testing of the MVP including content, advertisement and memberships in the platform
Activities	Perform testing of the platform analyzing every capability individually
Acceptance Criteria	Correct working of all capabilities, taking extra dedication to the most important capabilities of the website such as advertisement, content viewing and logging
Dependencies	-
Deliverables	Testing report
Assigned Resources	Francisco Dueñas and Ramiro Antuña – Wikicai CEO & CTO
Duration	<1 week (Phase II)
Milestones	-
Cost	No estimated cost
Approval	Wikicai Management Team – CEO & CTO

After defining the most important tasks to be performed in order to launch the product to the market, **Figure 30** shows the high-level calendar to follow with respect to these activities, including the market launches expected for 2022 and taking into account possible contingencies or problems that may arise during the most critical stages of the process, which are the website development and the content management tasks.

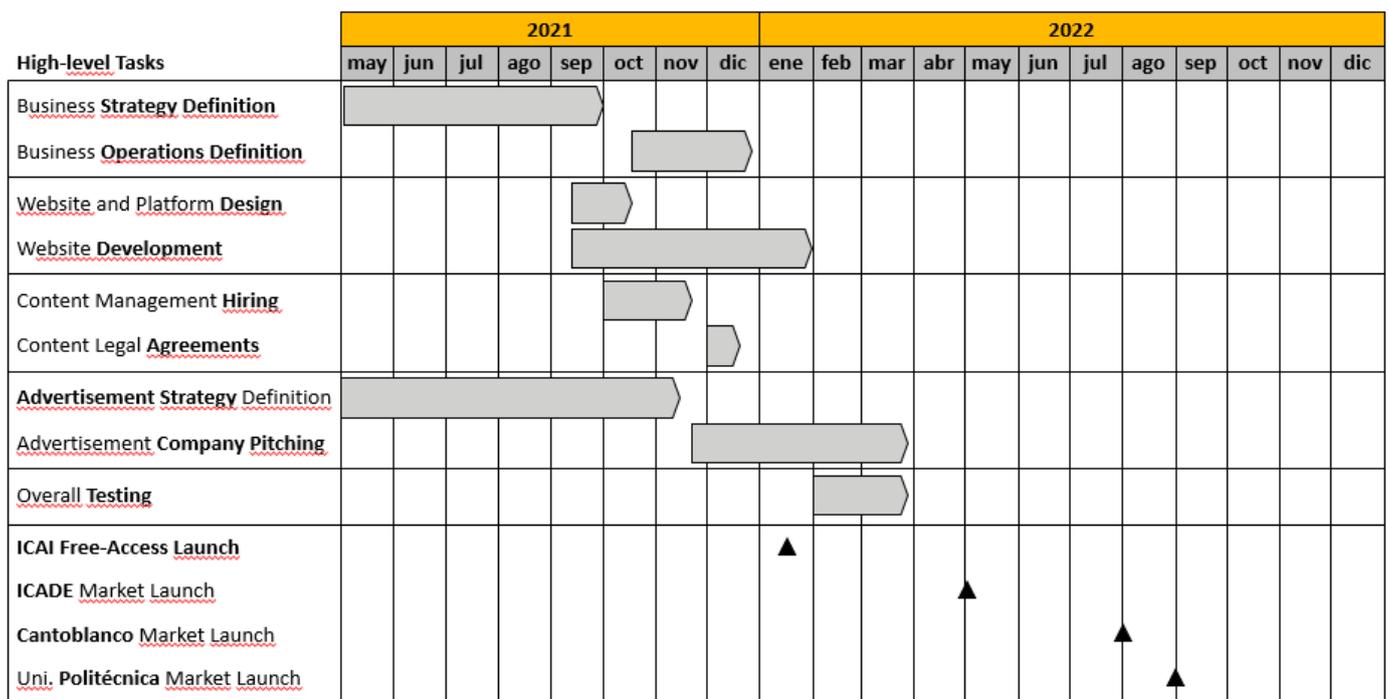


Figure 30: Wikicai's launch high-level calendar

3.3.6 BUSINESS CASE FINANCIAL MODELING AND SCENARIOS

This section is focused on the study of the new business financial plan and business case elaboration. Once the business plan is established and clear, it is very important to plan every possible scenario that could happen in the future to ensure rapid reaction and changes to the business if needed. In this sense, two different scenarios are established, representing the lowest case and highest case scenario possible, being the latter packed with riskier initiatives, such as more personalized advertisements.

Given the new business plan for Wikicai is very dependent on advertisements, the financial model will first estimate the revenue as a variable of the traffic, and assuming that an average revenue is generated per click. Therefore, the model calculates the number of visits to the website, the number of clicks on ads that those visits are going to generate, and in turn the total revenue generated based on a variable revenue per click.

First, to calculate the number of visits to the website in the future the model utilizes data available from business operations in ICAI and extrapolates these results to the universities where Wikicai will enter during 2022. In this matter, there are four major initiatives during 2022 to grow visits on the website.

First, starting in the first quarter of the year, visits from ICAI students are expected to double merely based on the free access of the website due to the change of business model. Currently the price to use the website is 0.99€/semester, and there are a lot of students that are not willing to pay to access the content. Second, in the second quarter of 2022, ICADE will join the portfolio offering in Wikicai, given cultural and relationship proximity to ICAI. There will be approximately two ambassadors and around ten notes owners across the university, with who the work will start the fourth quarter of 2021. In ICADE there are more than two times the number of students compared to ICAI, so visits are expected to grow by 150% assuming inefficiencies of 25%. Third, Wikicai will enter the market of the remaining part of Comillas University which is Cantoblanco. This campus is focused on CHIS studies and has mostly the same number of total students than ICAI. Therefore, considering 25% of inefficiencies, visits will grow by 30% this quarter. And last, the biggest implementation of

2022, utilizing all the knowledge learned in the previous market launches, Wikicai will enter the market for the Polytechnic University of Madrid. With over thirty thousand students, this university is over twenty times bigger than ICAI, opening the door for Wikicai to grow in visits at least by 300% in the last quarter of the year. During the next years, more universities and initiatives will join Wikicai, increasing visits exponentially. For sake of simplicity and conservatism, rates of visit growth range around 300% annually, being far more conservative than 2022 expected growth, which is expected to be over 1000%.

	2022				2022	2023	2024
	Q1	Q2	Q3	Q4	FY	FY	FY
Visits (End of Period)	30,000	75,000	97,500	397,500	600,000	1,680,000	4,704,000

Figure 31: Wikicai's visits growth with new business model

Regarding external metrics for revenue generation, such as CPC (Cost-per-Click) and CTR (Click-Through-Rate), both variables have been estimated based on market trends, both international and national, and focused on the education sector. As there are two different scenarios, a range of possibilities has been established, defining the lowest and highest possible outputs for each metric. In this sense, the range for CPC is between 1€ and 1.5€ per click, and the range of CTR varies from 2% to 3%.

Regarding costs, both scenarios analyze variable and fixed costs independently. First, variable costs represent payments to notes owners and ambassadors, which are between 30% and 35% of the revenues generated. Second, fixed costs are represented by the monthly website development and maintenance needed to sustain the high traffic growth that the business will experience during 2022, and by the cost of the initial development needed to build the platform. Specifically, the platform will be built by Ramiro Antuña, cousin and friend of Wikicai's founder and manager Francisco Dueñas. Both have agreed to work together in the development of the platform from October 2021 until January 2022, while Ramiro gets paid 30€ per day of work, with a daily minimum of two hours of dedication to

the business. Last, the model includes an extra 15% or 20% cost with respect to revenues as other financing or investment costs that may be needed to cover unexpected problems, implementations or general expenditure that could arise as the business operates.

		SCENARIO 1: Lower Case & Google AdSense	SCENARIO 2: Upper Case & Personal Ads
REVENUES	Visits growth	180%	220%
	CPC (Cost-per-Click)	1.00 €	1.50 €
	CTR (Click-Through-Rate)	2%	3%
VARIABLE COSTS	Fee per individual (% of revenue generated)	35%	30%
FIXED COSTS	Website maintenance and development fees (monthly)	150.00 €	250.00 €
	Platform initial development	3,000.00 €	3,375.00 €
OTHER COSTS	Other financing activities (w/r to Revenues)	15%	20%

Figure 32: Wikicai new business model variables based on Scenarios

As a result of the mentioned scenarios, revenue and cost assumptions and projected visits of the website, the model calculates two different outputs and high-level P&Ls for the next three years of business operations.

Scenario 1 represents the lower-case results, where visits growth and revenues are lower while variable costs are higher. This scenario assumes that advertisement is done via Google AdSense, which is an online tool that enables automated advertisement management, but which will give lower revenues than other more personalized solutions. This scenario results on very small losses during 2022 of around -3% of cash margin, but quickly recovers the next year, achieving 43% of cash margin and total revenues of more than 25.000€ in 2023. As expected, this scenario results show the feasibility of the business given a proper number of visits to the website thanks to the low-cost structure and the high scalability of the market.

SCENARIO 1

	2022				2022	2023	2024
	Q1	Q2	Q3	Q4	FY	FY	FY
Visits (End of Period)	30,000	75,000	97,500	397,500	600,000	1,680,000	4,704,000
Total Ad Clicks (End of Period)	450	1,125	1,463	5,963	9,000	25,200	70,560
Revenue	450 €	1,125 €	1,463 €	5,963 €	9,000 €	25,200 €	70,560 €
<i>Revenue Growth %</i>		150%	30%	308%		180%	180%
Cost of Sales*	158 €	394 €	512 €	2,087 €	3,150 €	8,820 €	24,696 €
Gross Profit*	293 €	731 €	951 €	3,876 €	5,850 €	16,380 €	45,864 €
<i>Gross Margin %</i>					65%	65%	65%
Operating Expenses*	450 €	450 €	450 €	450 €	1,800 €	1,800 €	1,800 €
EBITDA*	-158 €	281 €	501 €	3,426 €	4,050 €	14,580 €	44,064 €
<i>EBITDA Margin %</i>					45%	58%	62%
Investment & Financing*	3,000 €	169 €	219 €	894 €	4,283 €	3,780 €	10,584 €
Cash* (At End of Period)	-3,158 €	113 €	281 €	2,531 €	-233 €	10,800 €	33,480 €
<i>* in 000s</i>					-3%	43%	47%

Figure 33: Financial model results for Scenario 1

In the other side, Scenario 2 represents higher-case results, which consider higher revenues from advertisement, but higher investment in website development and maintenance, given the higher manual work required to manage personalized advertisements. However, the increase in revenues is sufficient to overcome the increase in cost, and the results of 2022 in Scenario 2 surpass results of Scenario 1 in 2023, as the first one achieves over 30% of cash margin in 2022 with more than 27.000€ in revenues. Moreover, given the high growth of the business in the following years, 2024 revenues would account for over 275.000€, giving the company a noticeable position in the market in just three years of maturity.

SCENARIO 2

	2022				2022	2023	2024
	Q1	Q2	Q3	Q4	FY	FY	FY
Visits (End of Period)	30,000	75,000	97,500	397,500	600,000	1,920,000	6,144,000
Total Ad Clicks (End of Period)	900	2,250	2,925	11,925	9,000	57,600	184,320
Revenue	1,350 €	3,375 €	4,388 €	17,888 €	27,000 €	86,400 €	276,480 €
<i>Revenue Growth %</i>		150%	30%	308%		220%	220%
Cost of Sales*	405 €	1,013 €	1,316 €	5,366 €	8,100 €	25,920 €	82,944 €
Gross Profit*	945 €	2,363 €	3,071 €	12,521 €	18,900 €	60,480 €	193,536 €
<i>Gross Margin %</i>					70%	70%	70%
Operating Expenses*	750 €	750 €	750 €	750 €	3,000 €	3,000 €	3,000 €
EBITDA*	195 €	1,613 €	2,321 €	11,771 €	15,900 €	57,480 €	190,536 €
<i>EBITDA Margin %</i>					59%	67%	69%
Investment & Financing*	3,375 €	506 €	658 €	2,683 €	7,223 €	12,960 €	41,472 €
Cash* (At End of Period)	-3,180 €	1,106 €	1,663 €	9,088 €	8,678 €	44,520 €	149,064 €
<i>* in 000s</i>					32%	52%	54%

Figure 34: Financial model results for Scenario 2

Chapter 4. CONCLUSIONS AND NEXT STEPS

Overall, this project has covered three main parts of the definition of Wikicai's past present and future. It has analyzed in detail how Wikicai was launched and developed back in 2018. It has also covered all the changes that were performed during the following months and years to the website, accounting for the great growth and numerous changes to the business model, including the addition of paid subscriptions to the website. Alongside these changes, the project also studied the performance of the business since it was launched, both from an economic perspective and from an operational perspective.

Regarding Wikicai's performance during recent years, the research has shown that Wikicai was growing and gaining more popularity when the business model was focused on free access for everyone. After the subscription model was established, the number of visits and popularity decreased and Wikicai stopped growing at the same rate. However, this move towards a subscription-based model opened the door for Wikicai to generate profits, which have been increasing constantly since the implementation. In the future, Wikicai can mix the best of both worlds with the new business model, leveraging free access to generate traffic growth and utilize this traffic to generate revenues via advertisements.

Additionally, implementations like the IP Tracking System to decrease vandalism while using the website or denying users to download documents from the server to avoid students transferring documents illegally were a key to sustain Wikicai's position in the market, as a lot of students are very focused on not expending money and will try their best to get access to the platform without purchasing a subscription.

Secondly, the project also involved detailed research of several companies and businesses around the world related to the EdTech and Note-sharing market, where a lot of interesting business models and ideas could be utilized. Out of all, the business model of CourseHero and the advertisement integration of Wuolah are very interesting. The first one utilizes subscriptions to generate revenues and empowers the upload of better notes by giving free credits to notes owners. In the other side, Wuolah offers free-access to all the customers

while generates revenues from website traffic and personalized advertisements. Furthermore, the project has analyzed the impact and potential entry to the digital note-sharing market through the study of the Porter's Five Forces, which have concluded that the potential entry to the market is very plausible given the low number of competitors and the high market size. However, the analysis also concluded that the two most important pillars to manage in this market entry is the supplier and buyer power. The first one being the supply of notes, which need to be of top quality to ensure the best experience for users and secondly the buyers being the companies that should find the platform as a great space to advertise their businesses.

Last, the project focused on the study and elaboration of the business case for Wikicai, which included the development of the new business model and financial plan, also presenting the updated value proposition and giving a first vision of the project management requirements in the following months to properly launch the business. In this matter, the business model proposed is considering some of the features found in the international competitors in the analysis conducted in the second section of the project. Wikicai will have top quality notes thanks to the work of university ambassadors and note owners, who will get paid accordingly based on the popularity of their notes. Additionally, Wikicai will generate revenues through personalized and targeted advertisements, which will be paid individually by companies that are interested in being advertised to Wikicai's clients. Indeed, advertisement offering from Wikicai is very interesting for a lot of companies given that 100% of its customers are students, and each degree and university filter different type of students with variables such as age, region, education or even wealth.

Overall, this project has achieved the main goal for which it was done and it is to serve as the first foundation to start the new era of Wikicai. The project is an enormous help to first know how Wikicai has played in the market in the recent years, what capabilities were key and what were the biggest mistakes during the journey. Additionally, it serves to understand market competitors both in Spain and internationally, being able to shape the new business model utilizing external ideas. And last, this project is also the seed of the

business case for Wikicai, which demonstrates the great projection and viability of the project.

Given this analysis, the next step is to get into action. Starting as soon as possible, and following the steps proposed in the project, Wikicai's management team and external advisors interested in the project need to get working with the 2022 agenda, looking for high quality notes and ambassadors in the markets where Wikicai wants to enter soon while the technology team develops the platform and elaborates an automated personalization tool for advertisements. Having high quality notes and a great platform to display advertisements are the two most critical capabilities that Wikicai needs to ensure that the project business case is satisfied and that the viability of the business is assured for the years coming.

Chapter 5. BIBLIOGRAPHY

- [1] Global Entrepreneurship Monitor “2020/2021 Global Report”.
<https://www.gemconsortium.org/file/open?fileId=50691>
- [2] José Torrego. “The Evolution of Investment in Spain 2019/2020”
<https://startupsreal.com/report/the-evolution-of-investment-in-spain-2019-2020/>
- [3] Euromonitor International “Global Overview of the Education Industry” Passport.
July 2021. <https://www.euromonitor.com/our-expertise/passport>
- [4] Amanda Walgrove. “How much do website make from ads?” Taboola Blog.
February 2021 <https://blog.taboola.com/how-much-do-websites-make-from-ads/>
- [5] Mark Irvine. “Google Ads Benchmark per Industry”. WordsStream. August 2021.
<https://www.wordstream.com/blog/ws/2016/02/29/google-adwords-industry-benchmarks>
- [6] José Galán. “ Coste medio en CPC en Google Ads por sectores en España”.
December 2020. <https://www.josegalan.es/coste-medio-en-cpc-de-google-ads-por-sectores-espana-diciembre-2020/>
- [7] Universidad Politécnica de Madrid. “Memoria estadística Universidad Politécnica de Madrid”
http://www.upm.es/sfs/Rectorado/Vicerrectorado%20de%20Tecnologias%20de%20la%20Informacion%20y%20Servicios%20en%20Red/Servicio%20de%20Biblioteca%20Universitaria/Nuestra%20biblioteca/Normativa%20y%20Documentos/Estad%C3%ADsticas/Documentos_Estadisticas/Memoria_Estadistica_SBU_2019.pdf
- [8] Google Analytics – Wikicai analytics <https://analytics.google.com/analytics/web/>
- [9] Wix Analytics – Wikicai analytics <https://manage.wix.com/account/sites>
- [10] Wikicai website - <https://www.wikicai.com>
- [11] Competitor analysis (start-up focused) – CrunchBase <https://www.crunchbase.com>
- [12] Nexus Notes pitch at Australian reality TV show. June 2015.
<https://www.businessinsider.com.au/yep-that-was-us-what-australian-startup-nexus-notes-learned-after-being-eaten-alive-on-shark-tank-this-week-2015-4>

- [13] Porter's Five Forces fundamentals – Understanding Competitive Forces to <https://www.businessinsider.com.au/yep-that-was-us-what-australian-startup-nexus-notes-learned-after-being-eaten-alive-on-shark-tank-this-week-2015-4>
- [14] Business Model canvas template – Strategyzer <https://www.strategyzer.com/canvas/business-model-canvas>
- [15] Business Model Canvas Explained – Strategyzer. September 201. <https://www.youtube.com/watch?v=QoAOzMTLP5s>
- [16] Thomson Reuters. Financial information <https://www.thomsonreuters.com/en.html>

APPENDIX I

IP TRACKING SYSTEM CODE

```
import wixData from 'wix-data';
import wixUsers from 'wix-users';
import { getJSON } from 'wix-fetch';
import wixLocation from 'wix-location';
export function getIpAddress() {
  return getJSON("https://api.ipify.org/?format=json&callback=")
    .then(json => {
      return json.ip;
    })
    .catch(err => {
      console.log(err);
    })
}
$.w.onReady(function () {
  let user = wixUsers.currentUser;
  let idusuario = user.id; //
  let isLoggedIn = user.loggedIn;
  var cambiosip
  getIpAddress().then((ip) => {
    user.getEmail()
      .then((email) => {
        let userEmail = email; // "user@something.com"
        wixData.query("Users")
          .eq("idusuario", idusuario)
          .find()
          .then((results) => {
            if (results.totalCount > 0) {
              if (results.items[0].ip === ip) {
            } else {
              let toUpdate = {
                "_id": userEmail,
                "idusuario": idusuario,
                "ip": ip,
                "email": userEmail,
                "cambiosip": cambiosip + 1,
              };
              let options = {
                "suppressAuth": true,
                "suppressHooks": true
              };
              wixData.update("Users", toUpdate, options)
                .then((results1) => {
                  let item = results1;
                })
                .catch((err) => {
                  let errorMsg = err;
                });
            }
          });
        }
      });
    }
  });
});
```

```
wixLocation.to("/anti-sharing");
wixUsers.logout()
}
} else { //logging in for first time
  let toInsert = {
    "_id": userEmail,
    "idusuario": idusuario,
    "ip": ip,
    "email": userEmail,
    "cambiosip": "0",
  };
  wixData.insert("Users", toInsert)
    .then((result1) => {
      let item = result1; //see item below
    })
    .catch((err) => {
      let errorMsg = err;
    });
};
```

APPENDIX II

IP TRACKING SYSTEM DATABASE EXAMPLE

T_email	T_ip	T_idusuario	#_cambiosip
lucasnp98@hotmail.com	83.47.159.231	7f7a523d-cfdf-4247-8ee1-...	! 0
jrfernandez@gmail.com	47.62.162.127	8ed776ed-352b-4ef8-b32-...	! 0
201702253@alu.comillas...	81.34.198.66	06b6202c-80c0-49c9-98-...	! 0
alvaro.rebollo.18@retamar...	81.38.87.235	458b35e4-ccb7-4209-9b-...	! 0
alvaromonteroballesteros...	95.123.244.237	f752f08a-d69a-40a7-a502-...	
elenaasancheztejedor@g...	83.56.217.175	4c4579a6-d003-4cd8-a8-...	! 0
elspamdealvaro@gmail.c...	88.4.104.145	d30d711e-02e2-40ef-90b-...	! 0
miguelangelvargasvallejo...	150.244.199.179	11d376e8-4f49-499e-863-...	! 0
alvaroa3a@gmail.com	88.25.204.74	9856bef4-088d-4dd4-9e-...	! 0
alediazcerrada@gmail.com	130.206.72.4	6e9852c1-65e7-48d0-9b5-...	
lorenzo.torrado@outlook.es	83.52.238.199	5f6cf5af-3137-4ea7-860c-...	
mariamatesanz1@gmail.c...	213.149.229.11	d28619a3-7863-4987-9d0-...	! 0
nacaalg@gmail.com	193.146.57.43	179bb795-ab52-4a01-8f7-...	
daviddelrio2000@gmail.c...	85.48.187.247	a2169002-1a9b-4182-b3a-...	
miguelcruceyra@gmail.com	2155.85.50	9e9e4605-4cec-4fc8-81f2-...	! 0

APPENDIX III

WIKICAI WEBSITE WALKTHROUGH

WIKICAI

INICIO

SUSCRIPCIONES

GRADO

MÁSTER



 Log In



APUNTES ONLINE DE CALIDAD A TU ALCANCE

¿Qué es Wikicai?

Wikicai es una iniciativa creada en septiembre de 2017 con el objetivo de ayudar a los estudiantes en el día a día universitario. En esta página se condensan los apuntes personales del fundador en los estudios de Ingeniería Industrial de grado y máster de la Universidad Pontificia Comillas - ICAI. Wikicai permite a los usuarios registrados acceder a dichos apuntes de modo online mediante un método de suscripciones.

Desde el inicio de Wikicai, se han conseguido +1 millón de visitas a la página y se han producido hasta dos cambios estructurales de la página web para mejorar la experiencia de usuario. Nuestro objetivo es seguir creciendo día a día, escuchando nuevas ideas e iniciativas de los usuarios. Para ello, o para cualquier problema técnico, contacten con wikicaimail@gmail.com.



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SISTEMAS DINÁMICOS
ESTADÍSTICA I
ESTADÍSTICA II
ECONOMÍA
TRANSMISIÓN DE CALOR

— TERCERO —

Giti

📁 TERCERO

Buscar en esta carpeta



Nombre ↑

Propietario

📁 CALOR

me

📁 ECONOMIA

me

📁 ESTADISTICA I

me

📁 ESTADISTICA II

me

📁 MAQUINAS ELECTRICAS

me

📁 MATERIALES

me

📁 REGULACION

me

📁 RESIS

me

📁 SEE

me

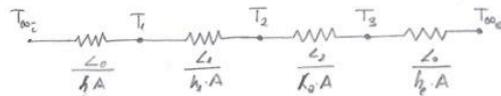
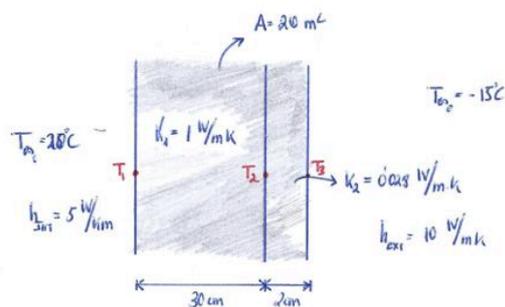


WIKI

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PROBLEMAS CONDUCCIÓN

PROBLEMA 1



$$q = \frac{T_{m1} - T_{m2}}{\sum R} = \frac{20 - (-15)}{\frac{1}{5 \cdot 20} + \frac{0.3}{1 \cdot 20} + \frac{0.02}{0.028 \cdot 20} + \frac{1}{10 \cdot 20}} = \underline{\underline{532.61 \text{ W}}}$$

$$\bullet q = \frac{T_{m1} - T_1}{\frac{L_0}{h_1 \cdot A}} = 532.61 = \frac{20 - T_1}{\frac{1}{5 \cdot 20}} \rightarrow \underline{\underline{T_1 = 14.67^\circ\text{C}}}$$

$$\bullet q = \frac{T_1 - T_2}{\frac{L_1}{k_1 \cdot A}} = 532.61 = \frac{14.67 - T_2}{\frac{0.3}{1 \cdot 20}} \rightarrow \underline{\underline{T_2 = 6.68^\circ\text{C}}}$$

$$\bullet q = \frac{T_2 - T_3}{\frac{L_2}{k_2 \cdot A}} = 532.61 = \frac{6.68 - T_3}{\frac{0.02}{0.028 \cdot 20}} \rightarrow \underline{\underline{T_3 = -12.34^\circ\text{C}}}$$

4

APPENDIX IV

ODS – SUSTAINABLE DEVELOPMENT GOALS

- QUALITY EDUCATION -



Wikicai's main goal is to be part of the educational foundation for thousands of students around Spain. Introduction of the new business model, which will be based in expanding the impact of the company to as many students as possible will increase capabilities of students to satisfy academic requirements and have the power to pursue their dreams without relying on their purchasing power.

- DECENT WORK AND ECONOMIC GROWTH -



Education is the foundation to economic growth and employment. Ensuring great education of individuals is key to build the required knowledge for recent graduates to achieve decent work life balance and prepare them to generate and contribute as much as possible in the society.



Wikicai's social objectives is to let any student be capable of driving his capacities to the limits. With the new business model, economic capabilities of individuals will not be a barrier to have great notes. In the background Wikicai battles lack of education by delivering educational learnings anywhere and to anyone. Additionally, expending in printing will be avoided thanks to the digitalization of notes.